

ITEMS OF INTEREST.

VOL. XIII.

PHILADELPHIA, DECEMBER, 1891.

No. 12.

Thoughts from the Profession.

PULPLESS TEETH.

Results of practical endeavor are sometimes so confusing as to lead to the suspicion that there are elements which are not understood nor appreciated, or, at least, are neglected in the manipulation.

The laws of progression in physiological adjustment of disordered function, or in retrogression of tissue to primordial conditions are so occult as often to negative the best understanding attained to and directed toward the accomplishment of wished-for results.

This conviction urges to a close study of the subtleties of matter, and a clearer intelligence that should accompany us in our efforts.

How often has our practice been confronted with unpleasant sequela on opening up a tooth void of a living pulp which may have remained in a quiescent condition, even for years, and free from pain. Repetition of sad experiences in this direction compels to an inquiry into the reasons why an inflammatory state should so often follow the simple act of opening the cavity.

Though no mechanical violence may have been inflicted, and no deleterious agent have been brought in contact with the tooth, yet a decided departure from normal function follows, which is seemingly out of all proportion to any possible influence that the effort might have produced.

What are the antecedents, conditions, and what the changes attendant on the manipulation?

It is averred that micro-organisms find their habitat in the cavity which are incited to vital activity and propagation by the

admission of the atmosphere. All this is plausible enough in the light of the modern theory of bacterio-pathology; but does this satisfactorily account for the deflection that obtains in the territory of the pericementum?

Notwithstanding the prompt application of germicidal agents, the lesion is quite as surely pronounced, even in one short hour, and before it could be reasonably supposed that the products of decomposition could be developed and forced to permeate the dentine or to pass the foramen.

In an article on this subject by Dr. Cushing, in *Dental Review*, it is inferred that the lesion spoken of is universally and solely the presence of septic matter in the pulp canal, and that the poisonous influences therefrom give rise to the phenomena; and that "it seems to be impossible for some minds to grasp the idea that all the trouble which we so frequently see in connection with pulpless teeth can arise from septic poisons." "Obviously, then," he says, "the first step in the treatment of such teeth is the removal from the pulp chamber and canals of all septic matter." Now, at this juncture comes the trouble. So long as the pulp remained in the tooth, though in a disorganized state, all was well so far as freedom from pain was concerned, but very soon after the cleansing process was begun there was manifest disturbance in the pericementum. The Dr. does not seem to appreciate the fact that in spite of all the care exercised, and the prompt application of germicides, the lesion often persist to an extent beyond the possibility of resolution. In his writings no reference is made to failures; his expressed methods imply uniform success. We can heartily congratulate him if his records prove such to be true.

I think I have noticed that the congestion following the simple opening of a pulpless tooth is more diffused than when specially caused by the passage of the septic material through the foramen; still I would not insist on this except that if it be true it would confirm the point I wish to make relative to processes that result in inflammation.

In perfectly normal conditions, there exists certain factors of physiological maintenance which tend to ease and comfort, viz.: irritability, tonicity, inhibition, etc., and a due degree of tension of the dentinal as well as the general vascular circulation.

As a river whose surface water is above the level of the adjacent territory, may flow musically along and obey the laws of its flowing so long as the marginal embankment is intact, so will

disaster follow should a breach occur to allow the escape of the water to the regions beyond. A closed cavity, under the conditions we have referred to, is an embankment to the blood column—in this manner: While the dentine is void of living matter it is still saturated with the juices of nutrition and indifferent elements, which, in their confinement, act as a backing to the more vital constituents of the cementum, and these in turn to the sustentation of pericemental function.

Now, in view of this presentment, what would be the natural result of opening the cavity? The tubuli and intertubular spaces are drained of their contents because of the release of this mechanical tension on the internal aspect, and the lowering of the physiological tension at the cemental border. This does not take place on the amputation of a living pulp, since the dentine will still maintain its vital integrity to such an extent, at least, as to simulate its normal status; thus the equilibrium of function is not greatly disturbed, and no depression of energy is manifest.

As we approach the cemental territory the influence of the disturbing agents is increased in proportion to the enhanced complexity of the tissues till the highly vascular pericementum gives painful evidence of impairment and a decrease of functional energy.

I do not deny the agency of sepsis to the determination of the disease, but am in accord with Dr. Baldwin, of Chicago, who "thinks the importance of micro-organisms has been greatly exaggerated."

Dr. Ingersol says: "The most gentle probing or other irritating cause may suddenly start an acute inflammation, followed by suppuration and breaking down of the tumefaction." If he means the direct irritation of the pericementum it will quite likely produce the results mentioned; but the gentlest cleansing of the canals can hardly be sufficient in itself to lead to such untoward results; besides, the act of opening does not necessarily drive back septic matter, but on the contrary, allows enhanced freedom of escape.

In estimating the status of the different tissues of the tooth, it seems plausible to thus consider them, and it seems to compare with the facts of experience.

The several parts are comparatively indifferent to any mechanical energy expended on them, but they are less tolerant to the physiological deflection. It can be easily understood what might be the changes of the cemental circulation when deprived of the support of the dentine, even though the latter shall have been greatly

modified in its functioning; and in proportion to the interference of cemental vigor, so must the more vascular investing tissue suffer in its departure from normal conditions, even to disintegration and death.

It is then concluded that a closed cavity, imprisoning a devitalized pulp, acts as a casual support and induces an incidental inhibitory influence to the cemental and pericemental tissues to sustain them in a tolerable degree of health, and that the sudden removal of the support releases the tension, to be followed by a deflection of the current and probable dissolution.

Writers who have dwelt most intelligently on this theme, give assurance that there is but one agent to combat and that is sepsis; but observation and experience forces on me the conviction that there are other factors concerned, and these such as I have referred to.

To make demonstrations to the reasonable satisfaction of others may not be easy; and it is only on due recognition of existing conditions that these convictions are at least made acceptable.

In my own treatment I rely largely on apyretic agents, not forgetting the necessity of employing antiseptics and germicides; at the same time avoiding, as far as possible, mechanical violence or haste in removing a filling, if there be one, and the contents of the cavity.

My basal excipient, and the one I have used many years, is a mixture of chloroform, alcohol, cloves and camphor; with this may be associated salicylic acid or such other antiseptic as experience would suggest. Cooling applications to the face such as hamamelis or calendula, and the systemic administration of "Antikamnia" as an analgesic in case of otherwise uncontrollable pain are efficient.

The incitation of a degree of disturbance is, I think, a necessary feature of the treatment, only that it must be kept under control by the methods referred to, and limited to the demands of the curative process.

As soon as the cavity is freed from septic matter it is made dry with bibulous paper cones and the apex closed with gutta-percha, lead or gold. If now there remains a chronic or sub-acute congestion of the gums, the application of basilican ointment, spread on a strip of chamois will have a very happy effect; this should be left six hours or more, and repeated if seemingly it is necessary. Rest is only required to complete the cure.

W. S. Elliott, M.D., D.D.S., Sag Harbor, N.Y.

THE POPULAR DENTIST.

The community is just now afflicted with popular dentists; they sometimes grace our dental meetings and orate on many things to show their wisdom, but sometimes to show their folly. Their zeal outruns their discretion. I was once assistant for a popular dentist. He had the habit of turning over to me all of the unthankful and disagreeable cases in the office, and most of the hopeless ones, and of picking out himself what properly belonged to the novice. It required skill and experience to know when to let some cases alone.

Still our popular dentist wore a large diamond stud and corresponding sleeve buttons, and was popular with his tailor and affable with everybody. But our popular dentist is not always learned. I recall one occasion when he desired me to purchase some oil of vitriol. The bottle came home labeled "Sulphuric Acid." Our learned principal looked at me reproachfully and placed the bottle in the cabinet. An hour later he was at the drug-gist's himself, complaining of the "mistake." He was quite sobered to find that oil of vitriol and sulphuric acid were the same. Another time a prescription called for chloride of sodium. This time he went himself and was mortified when he had brought back common salt.

An M.D. came in one day, and was discussing germicide, remarking that he thought bi-chloride of mercury was one of the best, and he thought would be useful to the dentist. Our popular dentist remarked that he thought corrosive sublimate was as good as anything. He said this in so decisive a manner that the two or three others around enjoyed it hugely. He was speaking of tempering a gold plate one day, saying that he heated it to a cherry red and dropped it into ice-water to stiffen it. Some gold worker remarked that the best way to stiffen a gold plate was to hammer it. He thought that heating was just as good. He supposed because this hardened steel or platina it would also harden gold.

Imagination is a great thing, and sometimes as potent with an M.D. as with dentists. Some time since, a dentist's wife in Trenton, N. J., died from the effects of chloroform, many of your readers will recall the case. An autopsy was held, the dissector swore at the inquest that when he opened the body he could smell chloroform distinctly from the lungs. The value of this testimony may be appreciated from the following experiment: Pour about a dram of chloroform in the palm of your hand and rub briskly, in five minutes after no odor of the drug can be detected; or satu-

rate a piece of absorbant cotton with chloroform and leave it exposed to the air of your room, in half an hour the presence of chloroform cannot be detected on the cotton. Yet medical men were swearing that they could detect chloroform from the body after it had been decomposed in that body 24 hours.

Willie Ketchum, D.D.S.

BLUNDERING.

We have to admit we have blundering dentists in our profession. They are without thoughtfulness.

Allow me to give a few illustrations. A lady came into my office with two lower centrals and several posterior teeth replaced on a vulcanite base. The artificial centrals were a chalky white shade, while the natural ones on either side were very dark, with yellowish necks. Imagine the contrast. This lady also wore a partial upper set, made so as to press forcibly against the necks of the remaining teeth, so that these were so loose and worn that they could have been removed with the thumb and finger.

While a young lady was away teaching school she had trouble with the two upper left bicuspid. The first was evidently too far gone to be of further use, the second had a dead pulp and on the anterior proximal surface was decay down to the free margin of the gum. The dentist decided this was also too badly decayed to fill, and concluded to extract the first and put in a bridge.

When she applied to me, two years afterward, this was disgusting. The bridge was constructed by fastening together two plain teeth with some very inferior solder. A pin had been soldered to the second bicuspid and a large gold band made fast to the first. The greater part of the remaining portion of the second bi-cuspid had been cut away, and the pin attached to the artificial crown put in the pulp chamber. The band attached to the other was put over the crown of the cuspid. Amalgam had been placed around the pin in the pulp canal, and at no point was the crown in contact with the root. The band had been made as large as the crown of the cuspid, therefore, when it was in position on the neck there was a space for filth. Besides this, the band was constantly forcing its way up under the gum.

The two artificial crowns were not more than two-thirds the size of the natural ones, and they did not articulate with anything and did not harmonize in color with the natural teeth.

Edward Eggleston, D.D.S.

DR. NORMAN KINGSLEY'S EXPERIENCE WITH CLEFT PALATE.

My attention was first called to this subject thirty-three years ago, and the cleft that was shown me at that time was one of the most extensive I have ever seen. I knew nothing about the treatment of cleft palate then except what I had read of surgical operations; but realizing that surgery, so far as I had seen the results of these operations, had failed to benefit the speech, I set out to see what could be done. After much thought—it was not done in one night, or month or year—I seemed to have discovered this one fact, that perfect speech involved the necessity for the natural velum to come at times in contact with the posterior wall of the pharynx, and thus completely shut off the passage of the sound as it issued it from the larynx. Some sounds in the English language must go entirely through the mouth; other sounds must pass entirely through the nasal cavity, and still other sounds must pass both ways. Perfect speech, according to our notion of speech, involves these three things—that there shall be a passage that can be shut off in such a way by a valve working between the two passages, so that at times the sound is directed one way, and other times both ways, and with organs of that character any one can speak the English language, or any other language as it is spoken, correctly and perfectly. But the moment you split that valve, or open a hole through it, or render it in any way imperfect, you immediately destroy the ability to perfectly articulate speech. Now the point to consider was, how could we restore that absent velum, restore that gap, and give to it the function of a whole velum? The result of all that thought was the making of an instrument, but that particular form just as it appears there, and beyond which I have not been able to improve on, came into my mind while sitting in Exeter Hall on the night of December 11th, 1864, while my associates were listening to an oratorio. I did not hear a sound of the music. I went home that night and made a paper model that was identical with the velum.

I had an interesting experience at that time in London. I made some instruments for some patients there, hospital cases, and they immediately showed an improvement in speech. But with all my claims as to the necessity for any interference in these cases, the necessity involving that a velum should be made which would act as I described, with all I had said on this subject before medical societies and dental societies in London, and such men as the late Sir Wm. Ferguson, who had an enormous reputation for operat-

ing on cleft palate, it did not do a bit of good. They said it was well enough in its way, but it would never amount to anything

I took one of my best patients to Sir Wm. Ferguson one day—a lad of eight years—and he looked down at the boy in his lofty way, and looking into his mouth, said, “That is very well, my lad, but when that fails you, come to me and I will sew you up.” Mr. Pollock took me one day into the wards of St. George’s Hospital, and showed me his operation. It was one of the finest surgical operations I ever saw; beautiful union throughout the entire cleft, even down to the very tips of the bifurcated uvula. I asked him how long the operation had been performed, and he told me twelve months. I asked, “How does he speak?” He said, “I do not know.” I had a newspaper in my pocket, and I handed it to the patient, who was a man about thirty years of age. He started to read. We were not either of us deaf, and we could hear sounds. I said, “Do you know what he is reading about?” And he said he had not the slightest idea; nor would anybody; it was absolutely unintelligible. So far as the object sought was concerned, the operation was absolutely valueless; it did not do the man one particle of good. The reason was, as Dr. Ottolengui stated, because that beautiful union had been attained at the expense of the length of the palate, leaving a great hole behind it which could not be closed. I have seen a few operations; possibly one-half of one per cent of cleft-palate where I could feel the surgeon was justified in operating after the patients had reached twelve years of age. But with all I can reasonably claim as the result of what has been done with instruments, I am looking forward and hoping for the time to come when surgeons will have boldness enough and skill enough to take the average cleft-palate infant and sew up the gap and get good union and make it totally unnecessary for the patient, in after life, to have to resort to appliances. I believe it can be done in the majority of cleft-palate cases, provided it is done as early as you would sew up a hare-lip. If you can get union at that age, and then if it is impressed on the parents and friends that the child must be taught to talk, with the natural growth of the child and the teaching, the palate will develop, and I believe they will learn to speak as normally as you or I can.

Within a year or two a little child about two years of age was brought to me from Newark, and I saw it was a very favorable case for operation. The cleft did not extend into the bone, but just reached to the posterior border, and while the tissue of course was small and thin, because the child was a baby, still it was as favorable a case for surgical interference as I had ever seen. I told the

parents if they could find an honest and conscientious surgeon, and one who was skilled, who would undertake to operate, they had better risk it. They asked to whom they should go, and I told them to go to Dr. Garretson, of Philadelphia, who has made himself somewhat famous as an oral surgeon.

He fills a professorship in the Philadelphia Dental College, and is a cultured, skilful and conscientious man.

Perhaps a year passed away, and they brought the child back to me with the cavity sewed up, but Dr. Garretson had not done it; he did not feel sufficient encouragement to justify it, so they fell into the hands of somebody else, and he had made an excellent operation, but the palate was not long enough to reach the pharynx, and more than that, it had broken away at the apex of the fissure and there was an oblong hole as large as two good-sized peas. I made for that little child, then about four years of age, what we call an obturator, a hard and immovable instrument. The hole was closed up with the obturator, and the child was put under the training of a teacher of articulation who knows how to teach these people, and in a very few months she could speak better than most children of her age; indeed, her speech is perfect for a child of her age, and you can see that there is an increased movement of the palate, and if it does not actually already touch, it will as the child grows older.

So you see what encouragement there is for surgeons to attempt these things at that age, for in the very few cases where surgery has accomplished a flexible and long velum, I have never seen one that would completely close the passage to the nares.

—*Brooklyn Medical Journal.*

There is not enough publicity given to the proceedings of the dental societies. They are, it is true, published for the education and profit of the profession; but there is much that ought to be wide-spread among the laity, and there is no agency as capable of doing this as the different dental editors. They ought to have the experience to know what to give out and what to retain, and the dissemination of such facts as the wonderful advances made in the treatment and preservation of the teeth, the various methods of replacement now in vogue, the merits and elements of the various kinds of filling, what can be expected from pulpless teeth, and an infinite number of subjects would, if thoroughly understood, make the patient an appreciative one, and cause them to take better care of their own mouth and their children's. *Dr. J. A. Osmun.*

FEES.

In American Academy of Dental Science.

Dr. Allen : There is a principle at stake here which every one should recognize. I feel that each one should know for himself what his time and his services are worth, and that we should seek to enlighten our patient in this regard. As a rule, we are apt to gage the value of our services by what we can get. For instance, a young practitioner may not feel that his services would bring as much as one who has been in practice for twenty years, or longer. It seemed to me that the simplest way of getting at the point is for each one to determine for himself what he is willing to work for—the sum that a day's labor ought to yield—and, having determined that point, let us gage our fees accordingly. I am perfectly willing to work on that basis. I believe we can work with much more justice to ourselves and to our patients if we make a definite charge for the time the service occupies; the cost of the material used should not be specially considered (except in artificial dentures), as it is very trifling compared with the fees charged.

Dr. Clapp : I do not believe that there is a business, a specialty, or a profession, or any occupation in the world, that requires so much uprightness and force of character to stand on the top plane of possibility as the dental profession, and there is no man living, outside of the operator himself, who can properly say what his fee should be. There is no other man that knows the circumstances, and when we come to gage and to determine the fees for dental operations by any fixed law, or by any analogy of reasoning, I do not believe it is possible to equitably do it. Some time ago I went to a physician to pay a bill, and at the same time I was in his office I was troubled with a slight affection of the throat. He is one of our foremost practitioners here in the city, and I asked him to look at my throat. I stepped into the light and opened my mouth. He looked into my throat and said, "Humph!" then turned and wrote a prescription, and handed it to me. The whole thing did not exceed one minute and a half, and his fee was three dollars. Now, I did not pay him for the time he occupied in looking into my throat and writing the paper—I paid him for his twenty-five years' experience. And, to my mind, he gave me greater service in that minute and a half than many another man would after studying my case an hour. It depends largely on one's own personal experience and conscientious application to the question of fees, as well as to means and methods of work.

Dr. Brackett : The word fee, in the sense in which we here use it, as payment for service, is a word of Scotch origin, meaning cattle. Cattle were used as currency, or a medium of exchange, in the same way that peltry, shells, gold-dust, and other articles of general desire or value, have been employed by rude and primitive people at various times. Cattle, or fe, fee, fey, fie, feoh, were essentially money, as we now use the term and employ the article, and when service of any kind was rendered, it was paid for in fee, cattle. How the term came to be restricted in its use as at present we have been unable to ascertain. We apprehend, however, that the distinction in terms between a fee and a wage is without any essential difference in meaning, is perpetuated, and finds its chief support and value for many in the fact that in the *popular* mind a hazy idea exists that somehow more honor attaches to the earning or receipt of a fee than to a wage or salary.

Dr. W. Baker : The practice which many dentists covertly pursue, as they say, "sizing a patient up," to estimate how heavy a fee he will stand, of course violates the equities, and places the adjusting of fees on the low plane occupied by the bully, who overrides the rights of all not bold enough or strong enough to thrash him.

These same men expect to pay no more for a pound of steak, for a book of gold, or an excavator, than would be demanded of a day laborer or a poor student for the same thing. "One price to all," is justice.

Dr. G. D. Thomas, specialist of Philadelphia, says : I have seen perhaps a dozen cases of constriction of the glottis, nearly a score of suspension of the breathing function, four convulsions, and five or six cataleptic cases. As one gains in experience, he is enabled to avoid almost entirely these risks by the knowledge he has acquired, which causes him first to anticipate the danger, and secondly, being familiar with the indications, avoiding it, as in the cases of constriction and suspension, by admitting a small portion of air to prevent deoxidation ; and in convulsions and prolonged narcosis using great care not to anesthetize the patient further than is just necessary for the purpose. It is better to do less than is desired in instances of this kind, so as not to produce the impression of profound anesthesia. This remark is specially applicable to those of limited experience. Yet these are often the very persons who will take the greater risks.

SUSPENSION OF BREATHING UNDER GAS.

By this I do not mean the hysterical strain in people who recover with violent crying,—this is more noticeable in children, but seldom goes to a point to excite anxiety,—but the suspension of breathing from physiological causes. Of these three kinds are recognizable:

The first will take place immediately on loss of consciousness, where the patient, from fear or perverseness, has been persuaded against his will to continue breathing the gas. While volition lasts the sensory and motor ganglia, being as yet unaffected, will carry out the feeling of resistance by a sort of mentality of their own, and breathing will cease; sometimes this persistence will continue so as almost to produce suffocation. On removing the mouth-piece and pressing the finger against the fauces he will resume respiration with a gasp, and you can proceed with the administration.

The second kind consists of those who exert themselves to breathe immoderately, deeply and rapidly, so that when the action of the lungs is no longer controlled by volition breathing will cease from fatigue and rest follow involuntarily for several seconds, sometimes requiring considerable effort to bring about a resumption of the normal action. In both it is important to recognize early the cause and effect, and to apply the proper remedy promptly, remembering that, while respiration is suspended the anesthetic effects are continually increasing, particularly that phase which is produced by what is known as the want of oxidation.

The third state of suspension is produced legitimately by the physiological effects of the gas, and its accompanying asphyxia directly on the nerves which control the action of the diaphragm and lungs. To my mind this condition is caused more by the apparent asphyxia, or want of oxygen, than by the actual effect of the gas. Of course, an excessive dose of the gas might produce this effect, as it has been reported in most of the cases of death in animals that the lungs ceased their action before the heart ceased beating; but in the cases to which I refer there will be no indication of an overdose; in fact, it will sometimes take place before the patient is sufficiently under the influence of the gas to permit of operating.

The appearances presented by persons in whom this phenomenon is likely to take place are sufficiently clear to excite suspicion and to put one on guard, and with these premonitory indications it is usually easy to avoid the point of danger. This suspicion may be aroused by persons of dark-colored blood, as shown at the lips, and you will notice that such people take very slow and

shallow inspirations naturally, showing that their blood appears already heavily charged with carbonic acid; or rather they do not breathe a sufficient amount of oxygen to relieve the blood of its accumulated carbon, and at the first inhalation the dark appearance begins to deepen. They will be in apparently good health, and as far as the lungs are concerned may be entirely free from disease, but are seemingly particularly weak in their breathing function, which will sometimes be as low as twelve or fourteen respirations to the minute. As the effects of the gas progress, the discoloration increases, the breathing grows slower and less deep, and, should you continue the administration, would cease entirely. By a wise dispensation, the admission of atmospheric air to the lungs is the great antidote for the ill effects produced by the gas in these especial cases, so if one grows sufficiently familiar with the indications preceding this effect and admits the air soon enough, respiration will be resumed and no bad result will occur.

Should the respiration cease, then every effort should be made by artificial means to restore it as quickly as possible, remembering that the condition of deoxidation is in a great measure responsible for the effect; and the heart's action still going on, every second lost adds so much more to the depth of the impression on the nerves already paralyzed.

Several methods of artificial respiration have been recommended. The idea, of course, is to get air to the lungs with as little loss of time in preparation as you can, and before resorting to other methods I would suggest that (your patient sitting in the chair with his feet resting on the footstool) you press the body forward until the chin will come as near the knees as possible. This motion will force the abdominal viscera toward the lungs, thereby emptying them of the gas; then raise the body to the perpendicular position—keeping the tongue well forward in the meantime—and lift the head and arms, which will tend to inflation; then again pressing forward to the knees, repeating till the blood begins to assume a red color, when the diaphragm will take up its natural action and recovery will be speedy and complete.

I have said that to my mind these effects are produced more by the accompanying deoxidation of the blood than by the direct effects of the gas; and it is of interest that we should discuss just what the effects of the gas are and how produced.

There have been different theories on the subject. First, it was thought to produce anesthesia by overoxidation, because of its containing another equivalent of oxygen as compared with atmospheric air; but it has been shown that it goes into the lungs

ITEMS OF INTEREST.

nitrous oxide and comes out the same, with a decreasing amount of carbonic acid, showing that no separation of the oxygen from the nitrogen takes place. A later theory assumed that the gas possessed no anesthetic properties in itself, but its effects were produced solely by the condition known as the want of oxidation, or deoxidation of the blood.

If such were the case, any agent which would cut off the oxygen supply would produce the same effect; but there is nothing known that will produce a similar result in the like space of time. Probably the most nearly correct theory is that we have a dual effect produced: one by the gas, which is as pure and legitimate an anesthetic or narcotic as any now known, and we have the accompanying effect of deoxidation, which helps to produce the anesthesia, but which is responsible for the disagreeable symptoms such as the asphyxiating appearance, violent twitching, and convulsive muscular contraction. If we could eliminate that which produces this condition, we would, I think, have all that could be desired in an anesthetic for dental use.

To meet this great desire, it has been suggested that the gas should be mixed with pure oxygen, or diluted with atmospheric air, but I have never learned that these efforts have proven satisfactory.

It is not admissible to previously dilute the gas with air, for you meet patients of such diverse constitutions that some will fail to come under its influence at all. There are some men who can drink an inordinate amount of whisky with impunity, while others are easily affected with half the quantity; so you will find it with gas; some will require a greater amount than others, and if it is diluted with air complete narcosis is utterly impossible.

However, the evil effects of the lack of oxygen can be mitigated very perceptibly by allowing a small amount of atmospheric air to pass through the nose and between the lips when the inhalation is about half completed; not enough to counteract the effects of the gas, but just sufficient to supply a little oxygen to relieve the intensity of the discoloration, and herein lies the secret of avoiding the dangerous symptoms which I have endeavored to describe in the constricted glottis and suspended breathing. By so doing I have frequently administered the gas in this way to the same patients without the least inclination to contraction or stoppage of respiration. In long operations, where the patient has been under the influence from three to eight or nine minutes, alternating a breath or two of the gas with one of air, there has been but the least discoloration imaginable, and none of the stertor and severe twitchings which were shown where the pure gas was given.

It is the knowledge of this fact which leads me to condemn the use of the hood, or face-piece, so much in vogue in Europe, and which, I am sorry to see, is recommended in this country. You want full view of the lips, so that you may see to what extent discoloration is taking place, which, with the mouth-piece and face uncovered, can be relieved to a great extent, and that, too, without prolonging the period of inhalation more than a breath or two.

Convulsions will sometimes occur in young persons subject to epilepsy, and it is well to refuse to administer it to those who are liable to frequent attacks, though that fact does not make it certain that such an effect will be produced. In my own experience I had a young man sixteen years of age who had been subject to these fits about every four or five weeks, and it had been just four weeks since his last attack when I successfully gave him the gas. Another was a boy fourteen years old, who had never had an attack since his fifth year, before which time he was seriously affected by them, and I have never learned that he has had any since; and yet we have given the gas to probably hundreds who were thus afflicted who in no way exhibited anything of the kind.

There is little you can do in the treatment other than to try and prevent deoxidation of the blood as much as possible, and relieve that which is present by placing the patient on the floor, resorting to means for producing artificial respiration, and waiting till the spasm is relaxed and breathing is voluntarily resumed. After he has recovered he will feel the usual dullness of intellect, which gradually passes away, and a disposition to sleep which is permissible.

—Dr. J. D. Thomas, in *Cosmos*.

PYORRHEA ALVEOLARIS.

Dr. W. L. Jerman, of Minneapolis asks: First.—Is pyorrhea alveolaris, in your judgment, the suppurative stage of catarrhal stomatitis? If not, why not? The following are answers:

Dr. Angle: We believe there is as yet no well defined cause established.

Dr. Martindale: I would say pyorrhea alveolaris, which simply means pus issuing from the alveolus, is a *symptom* which may apply to a host of separate and distinct diseases of the gums and alveoli. I imagine the questioner means to ask whether a disease characterized by chronic inflammation and tumefaction of the gums, attended by recession of their margins from the necks of the teeth together with suppuration (probably of an infectious

character) and molecular solution of the bony elements of the alveolus, a disease more happily denominated by Dr. G. V. Black "phagadenic pericementitis," is the same thing as the suppurative stage of catarrhal stomatitis. I would answer that catarrhal stomatitis would undoubtedly predispose to suppurative affections of the gums, but inasmuch as stomatitis is from long usage, understood as an affection of the mucous membrane of the mouth at large (usually affecting especially the follicles), I do not think we can consider pyorrhea alveolaris produced by ulceration of the alveoli, and catarrhal stomatitis as synonymous.

Dr. Brimmer: No; I believe it due to a highly irritating calculus around the necks of the teeth—not salivary—but deposited from the serum.

Dr. Goodrich: Yes.

Dr. Patterson, of Kansas City: Pyorrhea alveolaris is, in my mind *unquestionably* the suppurative stage of catarrhal stomatitis. I have so held for eight years; continued observations invariably confirming this diagnosis.

Dr. Ingersoll, of Keokuk: No; catarrh in its primitive stages is limited to the mucous surfaces. It extends only by continuity, or by contiguity of tissue. It cannot extend to the root membrane by continuity, for the mucous membrane and the root membrane are different kinds of tissue, nor by contiguity, for the contiguous mucous membrane and gum tissues are seldom involved; thus limiting the pyorrhea disease to the root membrane. The suppurative stage of catarrh is preceded by a profuse discharge of viscid mucous, which, according to my observation, does not precede pyorrhea alveolaris (peripylemia). For these reasons I cannot regard the disease as catarrhal in its manifestations.

Dr. Black, Jacksonville: No, certainly not, because there is no catarrhal stomatitis connected with it. It is not a disease of mucous surfaces.

Dr. Thompson, Topeka: I think pyorrhea catarrhal in its nature, consequent on nutrition.

Second.—In your experience, about how many cases of pyorrhea alveolaris have you found complicated with nasal catarrh or catarrhal pharyngitis?

Dr. Angle: Only a small percentage, and those cases we believe to be wholly accidental and associated in no way.

Dr. Martindale: I cannot say how many cases of phagadenic pericementitis have been complicated with nasal or pharyngeal catarrh, but inasmuch as the lowered vitality and anemia of the nasal and pharyngeal mucous membranes would also predispose

the gingival borders, to suppurative disease, I imagine one-quarter perhaps, of my cases were thus complicated.

Dr. Brimmer: I cannot say I have ever noticed any connection, or kindred complication.

Dr. Goodrice: In no case was catarrh present in such form as to make a complicated case.

Dr. Patterson: Eight out of ten. This is from a record of cases.

Dr. Ingersoll: Catarrh is far more prevalent than pyorrhea alveolaris. The same patient might therefore have both diseases, not in any pathological sense *complicated* with each other, but simply *synchronous*.

Dr. Black: Practically none—can't now think of a single case.

Dr. Thompson: I have noticed but few cases in which it was associated, but it could be independent and frequently is so.

Third.—In what proportion of cases has it seemed to be congenital?

Dr. Angle: In nearly every case.

Dr. Martindale: I would say my opportunities to acquaint myself with the condition of cases under my hands which were affected at birth have not been sufficient for me to give data.

Dr. Brimmer: There may be an inherited diathesis, but in no case can it be congenital.

Dr. Goodrich: Can't say.

Dr. Patterson: Probably about one in five. The word congenital in this connection, however, would express to me habit and environment, instead of congenital character of tissue.

Dr. Ingersoll: Only in such peculiar cases as might render any morbid disease congenital.

Dr. Black: Inflammation of peridental membrane is clearly hereditary—phagadenic pericementitis is not.

Dr. Thompson: In most cases it is congenital and hereditary, if the constitutional predisposition of faulty assimilations is inherited.

Fourth.—Has it appeared to be associated with irregularity of the teeth? If so, in what proportion of cases?

Dr. Angle: *Only in a very small per cent* less than in regular arches, for it is found in the regular and perfectly formed teeth and arches.

Dr. Martindale: Where mouth breathing exists as a cause of irregularity, yes; also where irregularity favored calcic deposits as aggravating causes of phagadenic peri-cementitis.

Dr. Brimmer: Not always—should say it is as often found where the teeth are regular.

Dr. Goodrich: No. In all cases I have had to treat, the upper denture was regular, the lower incisors only being slightly irregular. I think most dentists would say that they were in a normal position.

Dr. Patterson: Irregularity is certainly a predisposing cause as it hinders and prevents thorough cleaning of the mouth.

Dr. Ingersoll: No.

Dr. Black: Not especially.

Dr. Thompson: Irregularity of the teeth has little to do with it, except in that it may lead to neglect of proper cleaning and the accumulation of calculi as a local irritant.

—Review.

SUGGESTIONS ON DENTAL SOCIETIES.

Dental societies should be graded, and the method on which they should be managed should be in graded form. Each should have its particular line of work to accomplish, thus avoiding clashing, and at the same time accomplishing for each society all that could be expected. The program of a society should be prepared according to its grade: thus, for the local city or town society we should naturally expect to instruct the young men how to preside at meetings, and have them become familiar with parliamentary rules. They should learn to write and read papers and discuss them, and should attend clinics; this should be a school of general instruction, where all new ideas and appliances are developed before the eyes of the members.

In this class of societies the clinics should consist of new methods of operating and demonstrations of new appliances. It is quite impossible, even in the local societies, at the present time to demonstrate an operation or an appliance so that all may become thoroughly familiar with its minutia, and therefore the committee should divide the members of the society into classes.

I claim that any young man who has graduated from a dental college and does not know how to fill roots of teeth, insert amalgam fillings, make applications to destroy pulps of teeth, and all the operations that come under the ordinary line of the practice of dentistry, should be returned to the dental college and instructed in that particular branch till he is proficient.

Demonstrations should be encouraged in local societies and post-graduate schools for the purpose of inculcating the new ideas.

They should be conducted in small classes, in such a manner that each member or student can make the demonstration under the supervision of the teacher, or it should be so clearly demonstrated that all are perfectly familiar with it. The State, national, and international societies should be conducted in quite a different manner. Demonstrations should be entirely excluded from these bodies. They should be entirely scientific in their character. The time which is now devoted to clinics might be set aside for social intercourse, and so relieve the mental strain, at the same time affording opportunity for becoming better acquainted with our confrères. For this purpose our national societies should always meet at one place, where arrangements should be made for permanent quarters. In connection with a hall there should be established reading-rooms and libraries, which should contain all the leading dental and medical journals. This room might also be used for social intercourse. A museum should also be connected with it, in which all the physiological, pathological, and anatomical specimens, models, and everything pertaining to dentistry might be deposited. All the cities in the United Kingdom, as well as other countries, have large collections of material which are of interest to dentists. It seems hardly possible that we in America, who have made such strides in dentistry, should not possess a museum which, while not equal to our advancement in operative dentistry, should be at least equal to many of the museums in Europe. A well-filled museum would alone be an attractive feature to the practitioners in the different parts of the country. It is possible that the national medical societies would club together with the dental and arrange such accommodations.

Politics seems to be the all-important business in some of our societies. Much time is spent in discussing what is called business, which, when seriously looked into, is really of no importance, and this is often a pet hobby of some one who has not a scientific idea, and takes no interest in the paper, but who is always seeking an opportunity to display his knowledge of parliamentary rules. This can be easily arranged in three ways. First, by setting apart certain hours and devoting the time to that particular line of business, and under no circumstances allowing it to come up at any other time; second, by appointing a judiciary council, consisting of three, seven, nine, or thirteen, of the oldest members to take charge of all the business of the meeting, and allowing nothing of a business character to come up at the general session; third, the plan suggested by Dr. Atkinson, "The Business Committee should be part elected and part appointed. Perhaps seven members would

be a proper number, of whom three would be appointed by the chair and four elected; the appointees to serve during the official term, and those elected to serve under the first election for one, two, three, and four terms (a report each six months is suggested, making two terms for the Business Committee in each year, and the eventual elective service of each member two years); subsequent elections to place a committeeman for four terms as each expired. This would provide for some experienced members being always on the Business Committee."

There is more time spent in dental societies listening to long-ago worn-out methods and theories than is necessary. One scientific paper which has taken ten years for its preparation, and which contains solid facts, is worth more and will give the author more credit than one paper of guess-work each year for ten years. After a scientific paper has been prepared, it should be turned over to the Executive Committee, to publish a sufficient number to be distributed among all the members of the society at least one month before the meeting. This would give all an opportunity to prepare themselves, and all would then be able to speak intelligently on the subject. The society does not exist whose members can on the spur of the moment discuss a truly scientific paper.

—Dr. Eugene S. Talbot, in *Texas Journal*.

THE RELATION OF STATE BOARDS TO DENTAL COLLEGES.

For many years there has been ground for painful suspicion that many dental colleges organized under the loose provisions of most States, are granting degrees to incompetent and oftentimes dishonest men. On the other hand there has been an unusual tendency for young men, encouraged by the prospect held out to them by some dental schools, of the maximum of education at the minimum of time and expense, to rush into the study of dentistry without having either natural aptitude or the preliminary education necessary for the study of so comprehensive a science and art.

In view of these facts there is scarcely room for question as to the necessity of legislation which will protect the community from dishonesty, incompetency and ignorance, by so regulating the instructing bodies that they will graduate only thoroughly educated, scientific and conscientious dentists.

A diploma has a value only proportional to the reputability of the college issuing it, and is by no means evidence of its holder's

competency. Hence, the granting of privileges of practice to any holder of a dental degree, is insufficient and unsafe.

In Minnesota alone, the reports embraced between April 24th, 1889, and June 9th, 1891, (two years) show that it has been necessary for them to decline license to practice in that State to thirty per cent of the dental graduates who have appeared before them. These gentlemen who failed to pass (twelve) were all graduates of recent years (the oldest having received his diploma in 1884, and ten of them in 1890 and 1891), showing that the colleges of *to-day*, of the much boasted "modern system," are doing this work. One great hindrance to the efficiency of restrictive dental enactments, is their want of uniformity, which, besides its annoyance in other features, certainly puts far away that happy day when the Board of Examiners' license to practice in one State shall be acceptable to the authorities in another State as an evidence of fitness to practice. How can we account for this great diversity? It is certainly not due to the fact that framers of laws have nothing to guide them. Nor can it be that the conditions of dental practice or the needs for skilful and intelligent dental service are so very unlike in the different States.

It is frequently asked, "Who will examine our dental examiners, and how shall we feel sure that the examiners should presume to exercise surveillance over the acts of the august and most able men who teach in dental colleges?" I would answer that though occasionally an unfortunate appointment may be made on a board of examiners, yet when the members of the board are elected by the State Dental Societies, ratified by the Governor of the State, (as in Minnesota and several other States) the dentists would have no one but themselves to blame if their boards of dental examiners were not at least as capable of executing their functions as are the teachers of many of our chartered dental schools. In this connection it may not prove inappropriate to quote a few lines from an article by Dr. Wm. G. Eggleston in the *North American Review* for October, 1890, entitled "The Open Door of Quackery," without need for very much exercise of the imagination, these words will be seen to fit very nearly the condition of many of our dental colleges. Dr. Eggleston says, "Looking at our medical colleges, we see that an honorable and very small minority have taken a firm stand for high medical education." The majority of them, however, being in the hands of private individuals conducted for the money that can be made out of them, have done nothing in the way of raising our low standard of medical education *except* by *compulsion* from the few efficient *State Medical Boards*." "Complaisant legislatures

have chartered unnecessary colleges, 'professors' have invested money in them, and that money must be made to bear interest." "To draw students, the standards for matriculation and graduation have been put down so low as to make an American diploma almost a reproach in other countries."

One very strange circumstance that has followed fast on the developments made by such boards as require first, that candidates shall possess a dental diploma, and endure also subsequent test examination from the board, has been the manifest inclination of many dental colleges to propagate the opinion expressed in a recent editorial in the *International Dental Journal*, which says: "They" (the boards) "positively refused to adopt anything that might seem to be a recognition of the college diploma." "This document secured at the cost of so much time, labor and money, was to them worthless, so far as permitting the holder thereof to the rights to practice." This statement of the case is misleading, and we trust not shared by the most liberal and logical of the college men. Had it indeed been the case (as stated in the editorial) that all the boards declined to recognize the diploma as a prerequisite to enter into practice, then might it truly be suspected, that a long-suffering public, wearied and disgusted with the frequent derelictions of the colleges, had in their wrath enacted that no longer should diplomas be counted as any evidence of ability, and that any and all persons might appear before the boards for examination. Not so! Quite aware as were the framers of these laws of the notable and most shameful carelessness of many of the colleges, they still believed that there were honest men in them, that good colleges were a necessity, that the worthy aspirations of all well-meaning and well-doing schools, as well as the protection of the public, and the honor of dentistry would be bettered by a post-graduate examination at the hands of the board. Why should the worthy professors fear an honest and thoroughly reasonable examination, consisting of practical work performed upon patients, as well as oral and written queries? An examination which is open to all deans and professors in colleges. Is it because they fear the test? True gold welcomes the test acids of the assayer. It is only the spurious metal that shambles away with wordy excuses, signifying nothing. Again, it is alleged that it is not in accord with the spirit of our institutions, that a diploma issuing from an institution legally chartered in one State, should not be regarded in itself as valid grounds for privilege to practice in another State. Not at all! Numberless examples to the contrary may easily be recalled, but one will suffice. It is well known that a literary diploma, obtained of a legally

chartered, nay famous educational institution in one State, is not regarded evidence of its holder's fitness to teach the subject mastered in his Alma Mater in another State. The State to which he goes requires that regardless of any diploma, the would-be teacher should amply demonstrate by an examination, his fitness to teach in the State of his election. In conclusion, I would allude to a very unfortunate action of the National Associations of Boards of Dental Examiners at its recent Saratoga meeting. The action referred to is the adoption of the following resolution :

Resolved, That it is recommended to the State boards that when a graduate, after examination, has been refused a license, and his college requests information as to the causes of his failure to pass the examination, the boards shall furnish the faculty with a detailed statement of the subjects and questions on which the applicant has failed.

Resolved, That we discountenance publication by the State boards of the names of the colleges whose graduates have failed to pass.

The National Association of Boards, it has been hoped, would do much through its advisory functions (legal or mandatory functions of course it cannot have) to protect the public through its influence in bringing about uniform legislation of a high grade in the different States. That it should have thus retraced its actions of last year, and thus withheld its influence for protection to the people and regulation of the colleges, is a source of profound regret.

—J. H. Martindale, in *Review*.

ACID ON THE TEETH.

A patient, whom I had not seen for five years, returned to have his teeth examined. His teeth were but little decayed, and the fillings, both gold and amalgam, appeared to be in good condition ; but his front teeth, especially the cuspids and bicuspid, near their cervico-labial portions, were very extensively grooved. In short, it was a typical case of erosion.

Now, this gentleman, about four years ago, was connected in business with the Pennsylvania Railroad Company, and was called on at one time to supervise the shipping of a car-load of tooth-wash and powder to some western city ; and the manufacturer made him a present of some of the wash and powder ; and from time to time kept him well supplied. As the wash was very agreeable to the taste and cost nothing, he very naturally used it freely. When he had been informed of the nature of his trouble, he, naturally, inquired the cause. I told him that the etiology of the trouble was

somewhat obscure, but that it was supposed to be due to an acid acting upon the substance of the teeth from without. He then informed me of the wash which he had been using. Examination proved the *powder* was alkaline in reaction, and of course perfectly harmless; but the liquid proved to be acid in reaction, and I believe the erosion of his teeth was caused entirely by the generous use he had made of that wash. It has, as I observed, a pleasant and agreeable taste, being flavored with anise and cloves. I believe great injury is often done to the teeth by the ingestion of some one of the many proprietary medicines with which the market is so abundantly supplied. It seems rational to believe that the etiology of erosion is, first, the presence of an acid at the cervico-labial surface, that acid being introduced from without, and retained at the margin of the gums, and that this acid first attacks the thin and weak surface of the enamel, and then the dentine. Lactic acid acts on the enamel more readily than the other weak acids, excepting, of course, hydrochloric acid.

To revert again to the question of fluidity and solubility, here is a tooth that has been immersed in the strong tincture of the chloride of iron, a mineral acid, for twenty-four hours, is not affected in the slightest degree; but another tooth that has been immersed in the tincture largely diluted with water for *ten seconds* shows the surface of the enamel materially injured. This shows the power of fluidity and solubility. If a piece of zinc be placed in strong sulphuric acid (H_2SO_4), the acid has no effect on the structure of the zinc; but if a little water be added to the acid, the zinc is chemically destroyed. It is the sulphate of zinc, resulting from the first action, insoluble in the concentrated acid, that forms a protecting coat over the surface of the zinc; the addition of water dissolves this protecting sulphate, and renders further chemical action possible. In the case of the tooth immersed in the strong tincture of iron a similar action takes place, the oxide of iron protects the enamel from immediate chemical action, owing to its compact adherence to its surface. A weak solution of a vegetable acid dissolves the carbonate of lime very readily. Pour into a glass one teaspoonful of concentrated sulphuric acid, a quantity sufficient to kill any ordinary mortal, and then add about eight teaspoonfuls of alcohol, and to this solution add a little of the carbonate of lime; you observe that the carbonate of lime is not much disturbed, for there is but little chemical action. If, however, I employ one-half the quantity of this acid, and the same proportion of water, instead of alcohol, the chemical energy proves very destructive, showing how careful we should be in every minutia of our work.

The mineral acids are stronger and more destructive to enamel than any of the vegetable acids. Thus, if hydrochloric acid, instead of a vegetable acid, be used in the same proportion with water, we see at once an increased chemical and destructive energy. Hydrochloric acid is the acid contained in the tincture of the chloride of iron, a preparation of iron extensively employed by physicians throughout the civilized world. Notwithstanding its properties are extremely acid and astringent, it is employed not only in the treatment of anemia, but also in large doses in the treatment of erysipelas, neuralgia, diphtheria, acute rheumatism, and other disorders which might be mentioned. It acts also as a diuretic; even in ordinary anemia many authorities prefer it to any other preparation, claiming that its effects are shown more quickly and satisfactorily. These peculiar properties (especially the diuretic effect) are ascribed, by some, to a peculiar ethereal compound resulting from a mixture of the liquor ferri chloridi and the alcohol used in making the tincture, to which compound its odor is due. Almost every authority in materia medica and therapeutics calls attention to the fact that this preparation of iron acts on the enamel of the teeth with destructive energy; also, that it is not tolerated by the mucous membrane of weak stomachs. Most physicians and dentists coincide with this view.

—Dr. G. W. Weld, in *International*.

Dr. B. wishes "to know whether weighted rubber is more irritating to the gums than ordinary rubber."

Judging from my own experience I would answer yes. I think it a false theory to assume that an additional weight is a necessity for a lower set of teeth on the plea that it is better kept in position. Though there may be no immediate irritation of the gum, yet the sense of weight becomes a burden, and in time produces a degree of enervation which carries with it discomfort and discouragement. I have fallen into this error many times, and it has proven to be so by the successes following the substitution of the ordinary rubber for the heavy. There is but little difficulty in maintaining a denture in position if it is properly constructed. Should the alveolar ridge be wanting, the cheeks may be called into duty by causing them to impinge on flanges or plumpers built up from the buccal aspect of the plate. I would sooner construct an upper set with heavy material than the lower; and we know well that the greater weight of a continuous gum upper set is no objection.

W. S. Elliott, D.D.S., Sag Harbor, N. Y.

ARISTOL IN RIGG'S DISEASE.

My first use of the drug was in the treatment of a typical case of pyorrhea alveolaris, in which the disease was advanced to a point which led the patient to apply for the removal of several teeth which were exceedingly loose, the absorption of the alveoli of the two lower central incisors having progressed to an extent which seemed beyond all hope of repair. The tissues surrounding these teeth were exceedingly tender and painful, due to an acute exacerbation of the inflammatory process, a condition which is frequently noticed during the progress of this disease. There was the usual abundant discharge of pus from the pockets about the necks of the teeth. Examination with the probe revealed the characteristic dark-colored calcareous deposit on the roots, which, in a number of instances, extended nearly to their apices. All attempts to remove the deposit were rendered futile at this sitting by reason of the extreme soreness of the tissues. As a preliminary treatment, therefore, an application of aristol was made as follows: A ten per cent solution proximately, of aristol in oil of cinnamon, was made by rubbing the drug up with the oil on a glass plate by means of a spatula, and with this solution threads twisted from a wisp of absorbent cotton and cut into half-inch lengths were saturated, and gently carried by means of a blunt probe to the bottom of each suppurating pocket, the effort being made at the same time to encircle the root at the base of the pocket with the medicated thread. After each diseased alveolus had been so treated, the case was dismissed for twenty-four hours. The result shown at the next sitting on the following day was as gratifying as it was surprising, for all inflammation of an acute type had subsided, there was an entire absence of fetor, the flow of pus had entirely ceased, and the soreness had so completely vanished that thorough removal of the calcareous deposits was undertaken and carried out at this sitting, as far as the limits of time would allow. An application of aristol in cinnamon oil, as in the first instance, constituted the final dressing, and no other medicament was used during the treatment, with the exception of aromatic sulphuric acid, which was applied after the mechanical treatment by scalers, for its solvent action on any small granules of tartar which escaped the action of the instrument. The case was treated weekly for about ten weeks, and the improvement which took place at first has gone on steadily. There has been no recurrence of the flow of pus or of inflammatory action except in two instances, where, on careful examination, a small nodule of tartar which had been over-

looked was discovered on the surface of the root. A repetition of the treatment described, served to at once relieve the inflammatory action.

The case is now without treatment, save the use, several times daily, of a wash consisting of ten grains of zinc chloride to the ounce of peppermint-water. The teeth are still somewhat loose, but are sufficiently firm for comfortable use in mastication, and are undoubtedly becoming more rigid as the process of repair goes on, while the entire gum-margin presents a perfectly healthy appearance, and there is no evidence whatever of any active inflammatory process.

—Dr. E. C. Kirk, *Ed. Cosmos*.

WHAT ARE THE ESSENTIALS IN THE PROPER PREPARATION OF OUR DENTAL STUDENTS?

First, a good common English education. This much, and perhaps less, has filled the Presidential Chair of the United States. Second, a proper attention to, and knowledge of, what is known as prosthetic, or mechanical dentistry. To this, should of course be added a partial insight into collateral branches, such as chemistry and metallurgy, anatomy, physiology, pathology, therapeutics, *materia medica*.

None of our best physicians could pass a critical examination in *all* of these branches—they might become specialists in some one or other of these branches, but never in all.

Anatomy is a lifelong study. We have scarcely a half dozen all-around anatomist in the country. Now the question, really and honestly considered, is, how much anatomy is essential to the proper and scientific practice of dentistry; should a dental graduate practitioner be required to know more of it than is necessary to his work specialty, and so on with the rest of the collateral branches?

A pharmaceutical graduate should be taught all of *materia medica* that is known, for this is his specialty. A pathologist and microscopist make these subjects their specialty, and of course should be thoroughly educated in that direction. An accurate knowledge of anatomy in its surgical sense is indispensable to the surgeon—that is his specialty. I am not condemning in any way the pursuit of knowledge. Every man to the best of his ability, should improve himself in all directions; but should he do this at the expense of the more important studies? The time which can be spared to dental education forbids this to the ordinary student. A man can not and should not practice two professions.

—Dr. W. C. Klatte, in *South Carolina Society*.

DENTISTRY IN EUROPE.

GHENT, BELGIUM, June 19, 1891.

Messrs. President, Officers and Members of the Missouri State Dental Association, Louisiana, Mo.

MY DEAR COLLEAGUES:—You may well believe me when I say that I deeply regret not to be with you this year at your interesting session, not only for the opportunity it would have afforded me to bid you all good-bye, but also for the immense advantage I would have had to listen to your discussions and assist in your clinics.

Professionally speaking, we are here in the desert. Oftentimes a few good dentists have attempted the formation of societies, but each effort has proven a failure, thanks to the narrow-mindedness of the numerous know-nothings who gained admission in these associations. When I left this land of Belgium a little over four years ago, Brussels had a dental school, an odontological society, and a *Monthly Review*. To-day we have no paper, no association, no college. This is how dentists are progressing in Belgium. However, before my departure we were but six dentists in Ghent, now we are twenty. Where have they been initiated in the mysteries of cavity-filling??? No one could tell. In Belgium we are subjected to severe examinations, conducted by medical men exclusively. This, of course, is the cause of many graduates, who have very little practical knowledge of dentistry; their theoretical knowledge of anatomy, physiology and histology, being considered sufficient by the examiners to take an impression successfully and cure an alveolar abscess equally as well. Belgium is divided into nine counties, each having a board of examiners. A dentist, a graduate from one county, cannot practice in the neighboring county without passing a new examination.

In France, the dental art till recently has been free since the Revolution. Dentists were permitted to practice their profession in all its parts without diploma. But recently the law has been changed, and none can practice dentistry to-day who is not a doctor of medicine, an officer of health, or who has not passed an examination for the title of dentist. But the latter is not allowed to employ anesthetics, general or local, and he is forbidden to sell or give away remedies such as tooth-drops, dentifrices, etc. The consequences are that neither Dr. Bing nor Dr. Bogue, nor any other prominent practitioner, will have the right to employ cocaine, nitrous oxide, or the ether spray, without the assistance of a regular French M. D. Some operations, like the implantation of teeth, the

resection of a sequestrum, etc., will return to the dominion of the general surgeon. The two colleges of Paris will not be recognized by the State as independent institutions, and the examiners will belong to the medical fraternity exclusively.

In Holland, none could exercise dentistry who was not a doctor of medicine, and it is now the law in Austria; but the Dutch have been forced to amend their regulations, and dentists are subjected only to dental examination.

Bridge work here is an old, rotten chestnut (excuse the expression). More than thirty years ago my father learned the process from William Rogers, an English dentist living in Paris, Rue St. Honore. All old dentists have made such work long ago, and finally abandoned it as being useless. I will add, however, that the old style platina bridge cannot be compared to the beautiful American work. The permanent, or immovable, bridge, never found favor among European dentists, as can be seen in the old advertisements: "Incorruptible teeth, without hooks or ligatures." Desirabode, the father of the dentistry of the XIX century was the inventor of that celebrated phrase "without hooks or ligatures." The band was never employed by competent dentists, being considered, *a priori*, as being fatal to the health of the tooth. The claims of the International Tooth Crown Company are so absurd to a French dentist that the greater majority of practitioners refuse to believe in the existence of such a monstrous association. It is true, however, that the inventors of new appliances, or discoverers of new remedies, keep their secrets strictly to themselves, and are not in search of success at clinical reunions. There is less sociability among the dentists of Europe than in America. Indeed, social intercourse between colleagues in dentistry is here a very rare exception.

—Edouard Blitz, formerly of Lexington, Mo. Rue Courte du Marais 11, Ghent, Belgium, in *Archives*.

EDITOR ITEMS:—In "Monthly Gossip" of September, I find the following question: "Is it possible to treat and fill at one sitting a devitalized cuspid, with alveolar abscess of three years' standing and be reasonably sure that it will not give the patient further trouble?"

It depends on the condition of the tooth. If the abscess has a fistulous opening it may be filled after being thoroughly reamed out and treated with eucalyptus oil and iodoform, with little danger of further trouble. Of course the abscess would require after treatment.

Edward Eggleston, D.D.S., Richmond, Va.

PREPARING CAVITIES.

It is not uncommon to find a mouth, especially among children, where the point of a fine exploring instrument will readily detect a seemingly tiny cavity in the crown of a bicuspid or a molar. Suppose the patient to be of cleanly habit, the mouth in a hygienic condition, the teeth free from stains, and the caries unaccompanied by discoloration. The operator selects a small rose bur, which slightly enlarges the opening and then sinks into the dentine, throwing out a *débris* of white decay; to be conscientiously thorough, the case being a bicuspid, he carries the bur along the sulcus to the opposite pit. The cavity is then filled, fine-pointed pluggers and small pieces of gold being used, the whole when finished presenting a beautiful polished appearance. The crown is improved, since now it is jeweled! Suppose that eight or ten of such narrow streaks of gold be placed in different teeth about the mouth. They ought to last a lifetime, one would think. Then why is it that a year later some leak, while others show a bluish discoloration about their borders?

The reason is that in his endeavor to save tooth-substance the operator did not make the cavities large enough. He did not remove all of the decay, and he could not do so, because, first, he did not sufficiently enlarge the opening to the carious region, and, second, he prepared the cavities with a bur alone. It is frequently impossible to detect all the ramifications of decay with an engine-bur, partly because the rapid motion destroys the keen sense of touch, and more often because the position of the cavity is such that the shank of the instrument limits the territory which can be reached. All cavities should be scraped with spoon-excavators, and all undercuts explored with a right-angled hatchet. For this reason all crown cavities should be opened sufficiently to permit the use of hand instruments.

Fissure-cavities, however, are to be opened, even when not discolored, if a cavity is found at any part of the sulcus. It is poor practice to insert pin-head fillings in such positions. It would be safe to say that the sulcus in a bicuspid should always be opened to its full extent, even when caries appears in but one pit. There are a few exceptions. It is therefore generally improper to insert two fillings in the crown of a bicuspid, at each extremity of the sulcus. The patient is thus made to believe that he receives two fillings, when truly but one is needed, and would serve better than two, since the space between is weak.

In considering molars we perhaps should be less dogmatic,

though in the inferior jaw we would still be erring on the safe side, if erring at all, when we cut out the crossed sulci. I heard a professor in a dental college once, in a lecture, instruct his class differently. He said he had frequently filled lower sixth-year molars, placing one filling at each corner of the cross, and one in the center, charging five dollars apiece. Had this gentleman made a single filling of the whole, charging twenty-five dollars for his operation, he would have been more scientific, more honest, and yet have received the same fee. A man may regulate his fees as he chooses, but he cannot rightfully arrange his fillings for effect, at the expense of durability.

It is necessary here to dilate a moment on this subject of enlarging the cavities in the lower molars, especially those of the sixth year. We are usually asked to fill them in the mouths of children. The parent has no suspicion that there is a cavity, and when the child returns home with a tremendous surface of gold showing, the mother calls at the next visit, charging perhaps that the dentist has "bored a hole in the tooth." This is the opportune time for educating the family. A candid explanation should be made, stating that while it would have been possible to fill the tooth with only a small amount of gold, it would surely have needed re-filling in a short time. To those who must have an incentive for doing conscientious work, aside from the gratification of knowing that the most skilful course has been pursued, it may be said these talks with parents are sure to redound to the benefit of the operator.

The general rule of cutting out the sulci of course holds also with the superior molars, but here it is often best to insert two fillings. There is commonly found a deep pit in the anterior portion of the crown, a less deep one existing posteriorly, with a sulcus extending well over into the palatal surface. It will sometimes happen that the anterior and posterior pits, instead of being separated by a ridge, will be slightly connected by a groove across the ridge. In such a case two courses are open, dependent on circumstances. Where the cavities may be made separately of strong retaining shape, they should be so formed, but in placing the gold the filling may be made continuous from one cavity to the other across the groove. This accomplishes the object with the least loss of substance. Occasionally, however, the filling would be better retained if the two cavities were united, using the bur or drill. I prefer an inverted cone bur here, thus forming at once a slight but sufficient undercut.

I said that the prescribed rule cannot be as dogmatically ad-

hered to in the treatment of molars as in bicuspid. Not infrequently it would be useless to extend a fissure-cavity.

To summarize as to crown cavities in molars and bicuspid, I would advise, as a rule, the placing of but one filling in the bicuspid and lower molars, cutting out the sulci fully. In the upper molars two fillings are to be placed where a marked ridge separates the anterior from the posterior pit. Where the intervening groove is fissured, the cavities are to be united. This will occur more frequently in the second than in the first molar, and more often still in the third molar.

I have advised extending the crown cavity into the palatal groove of the upper molar; but in these cases the posterior fissure is usually continuous with the palatal groove. With the buccal groove it is different. In the inferior jaw this groove often presents with its widest part toward the gum, narrowing as it approaches the crown. If this groove is non-carious, it would usually be unwise to extend a crown cavity into it; if slightly carious, it is generally good practice to prepare the cavity pear-shaped, the apex toward the crown, and not to actually connect the crown cavity with it. Where caries is extensive at both points, they must be united; but even then it is best to unite them as little as possible, as by deep undercutting the buccal walls become much weakened. Prepare both cavities as though they were to be filled separately, and then pass a bur along from one to the other, making as shallow a channel as is compatible with strength.

Where a crown cavity in a bicuspid or a molar is but slightly separated from a proximal cavity, the two should be united and filled as one. If filled separately, the frail enamel partition must eventually be crushed out under the force of mastication.

There is a kind of extension which is, unfortunately, too often necessary. A patient comes to have the teeth cleansed. In removing stains along the gum-line of a molar, the enamel is found to have become softened. Examination with a hatchet excavator demonstrates that there are two, or perhaps three, small cavities in close juxtaposition. The rule here is rigid. The cavities must be opened up and formed into a single groove; moreover, it must be extended as far as the engine-bur will cut easily. All softened or softening material must be cut away till firm margins are reached. I have known such procedure to involve the removal of nearly all of the buccal surface, and once I so found a cavity completely encircling the tooth near the neck; but, as I have said, this is a rule which must invariably be enforced. A somewhat similar occasion, though from a different cause, and different in character, may arise

from the use of a clasp-plate. Here extension is indicated in another way. In the first instance, we aim simply to reach a portion of tooth-substance which is strong. In the second, this would not suffice. It will frequently be found that the caries exactly marks the part of the tooth underlying the clasp, the cavity cleaned of decay showing just the form of the clasp. Such a cavity should be extended in all directions, so that when the plate is again placed in position the clasp will not touch the tooth, but will rest against the filling. If this course is not pursued, it is plain that the width of the clasp and of the filling being the same, the edge of one lies just along the border of the other. As all accumulation of food along the edge of the clasp would, of necessity, be just along the margin of the filling, it is easy to understand that leakage would soon ensue.

We have now to consider the anterior teeth. In this region a new condition enters which must often modify our methods. What would be good practice in an inconspicuous part of the mouth might be very reprehensible in the front of the mouth, because of the resulting disfigurement. This exception to general rules must be further modified by sex, for we might not hesitate to enlarge a cavity in the mouth of a man wearing a heavy moustache, where we should regret exceedingly to place a large gold filling in the white teeth of a handsome young miss.

The central incisors occasionally are found grooved and pitted near the cutting-edge. Suppose that two or three of these pits are found to be actually carious. Shall we unite them by cutting out the groove, as in a molar? Most assuredly not, for by so doing we greatly disfigure the mouth, besides materially weakening the end of the tooth. The cavities shown should be filled separately. The central incisors are usually longer than the laterals, and if this extra length is sufficient to allow grinding off the imperfect end, thus removing entirely the pits and groove, it should be done, provided the centrals are not thereby made shorter than the adjacent teeth.

The six anterior teeth are sometimes seen with distinct grooves in their palatal surfaces. This occurs most frequently in the lateral incisors, and least often in the cuspids. Of course, where such a groove is found with caries at the deepest point, it is essential to cut it out thoroughly. Sometimes there may be no caries in the groove itself, but a proximal cavity closely approaches it. If we fill the cavity without taking note of the sulcus, it is possible no future harm may supervene. It is more probable, however, that caries would occur in the groove, and burrowing under the filling would loosen it. It might be claimed that when this occurs would be the time to attend to the case, but it might be remembered that

when a tooth has been filled, the generally accepted idea of the patient is that it is safe as long as the filling remains in position. The final loss of a filling by the burrowing of decay beneath it may be delayed for an indefinite period. Thus caries would be progressing without being suspected till a sudden pain gave warning, and by that time the mischief would have been done, the pulp being either exposed or closely approached. It is therefore preferable to fill the groove when treating the proximal cavity. The method of procedure is slightly different from that which would be pursued for a molar. If we unite the cavities at the outset by a fairly deep groove, we would, especially in a lateral incisor, produce a weak point, which would be likely to crumble under the mallet during filling. The better plan, therefore, is to fill the proximal cavity first. This being done, prepare a cavity along the sulcus decreasingly deep as you approach the proximal filling, just reaching that point and no more, making it as shallow as would be consistent with strength.

We now come to a most important subject, proximal cavities. Are we under any circumstances to extend such cavities beyond the borders outlined by the decay? There are cases where it is imperative, and others where such a course should be prohibited.

In the six anterior teeth the proximal cavities should be prepared as small as possible, consistent with reaching strong edges. My experience teaches me that this course cannot be too emphatically insisted on. Extension of proximal cavities in incisors has been advised, in two directions. First, toward the gingiva, to reach a point anticipatory of the possible recession of the gum; and second, around the palatal and labial angles, to reach self-cleansing lines. As to the first proposition, the recurrence of decay toward the gingival borders of a filling, in my opinion, depends not on the position which the border occupies, but rather on the form given to the border, the manner of insertion of the filling, and very largely on the perfection of the finish. What is a "self-cleansing" surface? Plainly the term is a misnomer. *No surface can cleanse itself.* Manifestly, it is meant to imply a surface readily cleansed by the tongue or lips. The only surface of the former character is the lingual aspect of the six lower anterior teeth. That the tip of the tongue does serve the purpose here, is amply proven by the fact that caries seldom if ever is seen in the lingual surface of a lower incisor, *the only point on any tooth where I have never placed a filling.* I have placed distinctly lingual fillings (not complicated with proximal cavities) in lower cuspids, but never in an incisor. This would limit this saving, cleansing power of the tongue to a single

surface of only four teeth. Then, when we remember that this very point is the first place we attack in cleansing a set of teeth, we see what limited ability as a scavenger must be attributed to the tongue. Next we have the lips. It is rare that we observe a cavity in the labial surfaces of incisors or cuspids except along the festoons, under green-stain, or as result of erosion, in which latter case it is most probable that the lips, or the mucous follicles on their surfaces, produce, rather than retard, the destructive process. With these exceptions, we must admit that the lips may effect a saving cleanliness. We find that festoon cavities are quite common. This indicates that the further we get from that part of the tooth—the cutting-edge—which can be reached by the edges of the lips, the less cleansing we observe. *If the lips cannot cleanse along the festoons, it is evident that they cannot, and do not, cleanse around the curve toward the proximal surfaces.* Can this be done by the tongue? It is rarely, if ever, that one washes the labial surfaces of the lower teeth with the tip of the tongue; and as to the upper, though this is more common, the action is to place the tip of the tongue about the bicuspid region, carry it along toward the bicuspids of the opposite side, and then back. This would wash off the *débris* along the labial surfaces, *but would crowd it between the proximal curved angles*, so that if we are to extend proximal cavities around this angle to reach an imaginary cleansing surface, the extension should be very great.

Extension of proximal cavities in bicuspids and molars is a different subject. Where such a cavity occurs in a bicuspid or molar distant from the masticating surface, it being either impossible or unadvisable to obtain sufficient separation, it is better to extend the cavity so as to gain ready access, than to attempt to fill it with little space. Argument in these cases that such extension must be toward the palatal rather than the buccal surface, is more often written than is the method practiced. It is preferable to extend toward the buccal surface, so that the operator may see his work.

Where the proximal surface is decayed, presenting a large saucer-shaped cavity of a form most difficult to make retentive without encroaching on the pulp, or producing weak surrounding walls, it is wise to extend the cavity toward the crown and well across that surface, following the sulci and making a deep pit at the opposite end.

A very serious condition is occasionally seen, which has been produced artificially. Under the delusion of saving a tooth from the necessity of being filled, some dentist has filed a "V-shaped

self-cleansing (?) space " between two teeth, and then inserted a flat, or flush, filling. The patient complains of constant pains after meals, caused by the impaction of food into this "self-cleansing" space, and the removal of the meat-shreads with a tooth-pick, the constant use of which has brought on a highly congested state of the gum. It is plain that the only remedy is to insert a contour filling. This cannot be done in the small cavity surrounded by thick, flat-faced walls. Therefore the cavity must be extended till the walls are thinned at their edges.

—Dr. Ottolengui, in *Cosmos*.

STATE BOARDS.

Abbott is on record saying that he would vote for a law in the State of New York requiring the examination of all graduates of all colleges. It seems to be the opinion of all to give or relegate to boards appointed or selected, made up of good men, the examining power. In regard to the board in our own State, it is selected from members of the society. It is usually so, for the reason that nearly all the men who are qualified to act, are members of the society, and the qualification consists in being educated men—that is, at the time our first law was formulated and the society had this legislation in hand it seemed to be wise to make some line of demarkation. It would be desirable to have men who have had experience as educators, but the trouble has been that nearly all educators have been, up to a few years, associated with private institutions, institutions run for profit. It is only within the last few years that endowed colleges have been instituted, institutions backed by the capital and moral support of the State. When the time comes that all dental colleges are under the wing of endowed institutions, and men are paid for their services as teachers, instead of depending on the fee or tuition price, though it might not add any to their reputations, still there would be no cause to fear their appointment working toward the advantage of any school.

The aim is not unlike that of other institutions that have the proper backing, it is to do away with the idea of numbers and to create as quickly as possible a barrier at the entrance to those unfit or unqualified to become capable members of the profession. You cannot divorce the dental college and the dental law; they are interdependent. We have not had much support from the profession till recently in regard to our students. A large majority of us have allowed the students to go away to their own Alma Mater without notifying them as to what we are doing here. But all this is now changing.

—Dr. T. E. Weeks, in *Review*.

TREATMENT OF PYORRHEA ALVEOLARIS.

As the causes of this disease are as yet so imperfectly understood, it is, I think, impossible to lay down a satisfactory treatment. Indeed, I am very skeptical in regard to the successful treatment of a well-defined case of this disease.

Notwithstanding some good authorities to the contrary, I am convinced that many cases which have been reported cured are simply cases of local inflammation—resulting from salivary and serumal deposits—and are not real cases of phagadenic inflammation of the peridental membrane.

I have yet to see a well defined case of this disease that has been cured; and to claim that the dental membrane, after being wasted from one-half to one-third of its original dimensions, can be restored, is, I think, fully as absurd as to say that a lung, wasted by tuberculosis, can be restored, or that a person in the last stages of pulmonary consumption can be cured. I doubt if it would not be more nearly a miracle to restore the lost dental membrane to health and original dimensions than the lost lung tissue.

For when we consider the structure of the peridental membrane and cementum, and the manner of their attachment, it is folly to hope for the restoration after it has once been lost by disease. You know the cementum is channeled in every direction by lakes and canals or lacune and canaliculi, which, in health, are filled with active living substance and cells, and thus the attachment of the membrane is the strongest and most intimate.

Now, after the membrane has wasted and the cementum has, for months or years, been bathed in putrid matter, and the structure thoroughly saturated with it, is it not absurd to suppose the fibers of connective tissue will ever find a healthy lodgment in such soil? Even if it were possible to again reproduce the membrane, which would of itself be just as great a feat on the part of nature to perform as it would be to reproduce any other lost organ, a limb, for example, a portion of the ear, or a tooth, the reproduced tissue would be cicatricial or a tissue of low vitality, which could not withstand the conditions which originally destroyed its predecessor.

By extra cleanliness we may retard the progress of the disease and prolong the usefulness of the teeth. But we cannot restore them to their original health or prevent their ultimate loss.

The free use of peroxide of hydrogen daily injected into the pockets and festoons has proven the most beneficial of any line of treatment yet known.

—Dr. Angle, *in Review*.

NARCOSIS UNDER GAS.

These are hysterical subjects who have catalepsy in addition, and I suppose the condition might be considered more properly a severe cataleptic fit, produced by the gas, except that it is an effect produced on the cerebro-spinal system by the action of an agent which is narcotic, and the cataleptic rigidity is wanting. I suppose that in the use of any anesthetic or opiate the result would be the same.

No unusual symptom is noticeable during the inhalation, nor till recovery should be looked for; the blood resumes its natural color, and the heart's action appears to be normal, but respiration will be at this time slightly enfeebled; the muscular system will be perfectly relaxed, and yet unconsciousness remains. If the patient is undisturbed, respiration gradually becomes slower till it ceases altogether, and I believe life would gradually ebb away. In one case of this kind which occurred in my hands the lady's physician was present, and though he recognized the attack of catalepsy which he had frequently seen before, and expressed no concern even when suspension of breathing took place, as he remarked that patients of this particular temperament were not apt to hold their breath to the point of suffocation; but in this instance it continued till the heart showed signs of marked depression, and it required our most strenuous efforts for her resuscitation. The remedies employed were artificial respiration, strong ammonia to the nose, and mustard plaster over the cardiac region. When she had recovered sufficiently to swallow, a generous dose of valerian with three or four drops of laudanum was administered internally, and later the circulation was further assisted by walking and by rubbing the hands. The resemblance to laudanum-poisoning was recognized when consciousness was partly restored, by the patient resisting every effort made for her relief, and begging to be let alone so that she could go to sleep.

The success attending these cases depends on the early recognition of the situation, and the promptness with which one employs the measures for their speedy restoration. Fortunately these occurrences are very rare, but that they are likely to and do take place is demonstrated by the experience of those who have extensively used the gas, and they constitute to my mind the dangerous effects in which, should a death occur, no other verdict than "death from the inhalation of nitrous oxide" could be rendered.

—J. D. Thomas, in *Cosmos*.

DENTAL EDUCATION.

There is a tidal wave of crazy fanaticism passing over this country; I might say over the civilized world, in regard to what is termed general culture, and I have heard our degree of D. D. S. and the attainments of our profession again and again spoken of by members of our own brotherhood, as indicative of partial culture. I am in favor of a liberal education in all branches of science essential to dentistry—but how is this to be obtained? I do not know where the line should be drawn. A man cannot learn everything in a lifetime, even. Something must be left unlearned, and if a man is to be classed as only partially cultured because he does not know everything, then I would say there is no such a thing as a universally cultured person.

I heard a gentleman of scientific distinction say, that he was once specially invited to be present at a meeting of the Smithsonian Society, which, as you all know, is composed of the most distinguished scientists of his country, to hear a paper on the "Persistence of the Frontal Suture," as found in the crania of the North American Indian, and the prehistoric races of the country, in reply to queries on the subject from some of the most distinguished ethnologists of Europe.

He heard, on the occasion, a brilliant paper on geology, which he partially understood. He heard from a most celebrated mathematician the solution of the 47th problem of Euclid by three different methods, arithmetic, geometry and algebraic expression, again he was non-plussed and not equal to an understanding of the problem so solved in the science of numbers and form. He next heard a learned essay on ichthyology, and came to the conclusion that he was the only fool present who did not understand these various essays, but was much relieved of his embarrassment, when the gentleman who had previously lectured on geology, turned to his friend, who had lectured on fish, and asked him, as they had eaten breakfast together, what was the name of the fish they had eaten, thus showing his ignorance of ichthyology, though he was familiar with geology. When the paper on ethnology was read, my friend was there perfectly at home on the subject, and took part in the discussion which followed. This shows us it is impossible even for a master-mind to become familiar with all scientific research and knowledge. We should know much of many things, but everything possible of some one thing, and make that the specialty of our life.

—Dr. W. C. Klatte, in *Southern Dental Journal*.

DAVIS' BRIDGE WORK.

For instance, to bridge in the bicuspid. Make the ordinary crowns for the pillars as in any other case, putting them in place, taking impression and bite and articulating the models. For the bicuspid to be put in I make an ordinary shell crown with cap. I then cut away a portion of the palatine portion of band, cupping it out much as an ordinary rubber plate tooth is shaped. Then over the end of this I solder a thin piece of platinized gold, which makes the crown now a completely enclosed box. I then select a proper cuspid facing, which is of the proper length to cover the gold and come nearer the grinding surface. I then cut out the buccal surface of crown much as is done with the Schriver crown. When all is properly fitted and articulated, I insert the shell (facing out) and solder as in any other case. When completed and ready for the mouth, I fill the greater portion of box with cement to make it as light as possible. Now, while the cement is yet soft the facing can be put in and retained with any substance considered best. When set the bridge is ready for mounting.

Its advantages are lightness, cheapness, quickness of construction, ease of repair, and that it can be done with an ordinary alcohol lamp, and only a small investment is necessary.

Fill the box with plaster before investing or it is liable to change shape in soldering.

W. C. Davis, D.D.S., Oxford, Iowa.

It is often difficult to make a full upper denture work satisfactorily when the patient has only the four or six lower anterior teeth. I always try to impress on the patient the value of a partial lower plate to be used in connection with the upper. But if only the upper one is to be made, in adapting the teeth to conform to the circle of the lower teeth, leave plenty of room for the lower teeth to pass inside of them without touching, thus preventing tipping at the back. Have the lower teeth bite on a floor or shoulder of rubber built on the upper plate, from the pins of the teeth back about one-eighth of an inch. Also, regulate the length of the bite with this shoulder, building it down toward the points of the teeth as the case admits.

The lower teeth biting as they do on this floor, extend a more universal pressure all over the plate, and usually prevent tipping. In nearly all cases where the lower teeth are anywhere near the nor-

mal position and the patient has common sense, a plate made in this way will be a success.

Faulty articulation is the principal cause of plates tipping.

In articulating the teeth of full dentures care should be taken not to let the anterior teeth come into absolute contact. Let all the pressure be on the bicuspid and molars.

After adjusting the two plates in the mouth and they seemingly articulate perfectly—to be sure of it take a thin right angle burnisher, tell the patient to bite hard, then try to force the blade of the burnisher between the teeth and try to turn the blade up or down. You will often find that the plates do not come together from equal pressure, but from the unequal pressure of one side only, forcing one or the other of the plates from the ridge and tipping it so that the teeth meet.

—Dr. W. E. Dadmun, in *Review*.

WATER AS AN ANESTHETIC.—After considerable study and experience in the use of cocaine for the painless extraction of teeth, I have been forced to the belief that this medicine was not all which could be desired for the accomplishment of that end. On the 8th day of July, as an experiment, I injected distilled water into the gum around the tooth till the gum became almost white, and then extracted the tooth, with the result that there was very little pain. On successive days I performed the following operations with the following results:

July 8th. Two badly decayed lower bicuspid, both ulcerated, without pain.

Second case. Lower left third molar, without pain.

Third case. Two upper third molars, considerable pain.

July 9th. Lower right bicuspid, without pain.

Second case. Lower right bicuspid, ulcerated, slight pain.

July 11th. Lower left second molar, slight pain.

July 13th. Lower right first molar, no pain.

July 14th. Second upper right bicuspid, considerable pain.

Second case. Upper right second bicuspid, very slight pain.

July 15th. Lower left first molar, very slight pain.

I have used it since July 8th, in the above manner, and find that my success has been as marked as with cocaine, with no risk of poisoning. Having watched all the above cases, I found, that with the exception of the last one, they all healed rapidly and without soreness, while with cocaine most cases suffer from extreme inflammation of the gums.

—Dr. F. A. Lane, in *Cosmos*.

TOBACCO AND PHYSICAL HEALTH.

Dr. J. W. Steaver, College Physician and Instructor in Athletics at Yale University, reports that he has made a comparative study of the users and non-users of tobacco in the senior class during the past four years, and from his measurements he sums up his statistics as follows :

Average increase in lung capacity in *users* of tobacco, 66 per cent greater for non-users.

Inflated chest measurements, an increase of 19 per cent greater for non-users.

Height, in *users*, an increase of 20 per cent greater in non-users.

Weight, in *users*, an increase of 25 per cent greater for non-users.

With regard to the possible effect upon scholarships, the statistics are: Of those who received junior appointments above dissertations, 95 per cent have not used tobacco; of those above colloquies, $87\frac{1}{2}$ per cent have not used tobacco; of all who received appointments, 84.3 per cent have not used tobacco; of the entire class, 70 per cent have not used tobacco.

Dr. Steaver says that these figures accord with statistics that he has kept for the past eight years, the greater percentage of gain always being on the side of those who do not use tobacco. Dr. Steaver states that the prominent athletes do not smoke or otherwise use tobacco as a rule. All the candidates for the crew abstain from tobacco.

—*Scientific American*.

“ORIGINAL MATTER.”—I have frequently perused long essays, the material of which were taken entirely from approved educational text-books. Gentlemen have written on such subjects as the comparative anatomy of the teeth and cranium, and written long essays which were simply copies from such text-books as “Owens’ Comparative” and “Tome’s Dental Anatomy,” without a single new or original thought, made up altogether from the acknowledged and well-known works of preceding authors.

In our societies, members are called on every year to write papers on threadbare and thoroughly hackneyed subjects. We have every year a regrind of cohesive and non-cohesive gold, amalgam, cement, education, etc. This makes us all tired.

See how quickly a meeting will arouse its energies and ear-

nestly listen to any new feature of practical teaching and improvement in operative and mechanical dentistry.

The ITEMS OF INTEREST, as a journal, has grown much in favor with the profession, because of the simple, isolated, practical facts which it gives in every number, and which go so far to aid the dentist in his daily routine of life. Of course nothing here is intended to reflect on the original work of such men as Miller, Black and such others, as published in some other journals. We are a practical and mechanical profession, and enjoy that most which brings us most good.

—Dr. W. C. Klatte, in *Southern Dental Journal*.

MANITEE, FLA., October 8th, 1891.

EDITOR ITEMS OF INTEREST:—In the October ITEMS, Dr. J. H. Boyett says, "Rubber doesn't expand while vulcanizing." Let him vulcanize a piece of rubber in a space three or four times as large as the piece, and if it does not expand sufficiently to resemble a piece of sponge, let him report the result. Or let him flow some wax on an old plate, invest and vulcanize, and if the old plate does not expand where the wax was, let him report that also.

I have tried vulcanizing without a flask, as some parties have reported they could do successfully. In my experiments the rubber expanded and burst the plaster investment, and the rubber was like sponge when taken out.

As to rubber breaking porcelain blocks, it will do so nearly every time if the rubber is rather thick and laps over the top of the block. Allow no rubber to lap over the top of a porcelain section and cool very slowly, and avoid any wrenching of the part, and few or no blocks will come out broken. *W. E. Driscoll.*

EDITOR ITEMS:—The man who says rubber does not expand during the process of vulcanizing has never studied the nature of it. I recently had occasion to vulcanize a small rubber foot, which was invested in a small flask made of a cigar box and strongly wired together from every side, but notwithstanding this, the box was burst asunder and the rubber mass so expanded as to make its removal from the vulcanizer quite difficult.

W. N. Murphy, LaGrange, Texas.

[Extra heat is sure to expand rubber, and if it is very thick it will expand the center much, and honeycomb it.—ED. ITEMS.]

OUR STATE DENTAL BOARDS.—Some of our State boards are asking more of freshly graduated students than they know themselves. This is a notorious fact. It is easy to prepare and ask difficult questions; any one who can read and write can do this, and in this way and on this principle they are refusing to allow graduates of reputable colleges the privilege of practice, and in this way are degrading and bringing into question the reputation of our best schools. Some of these State boards are arrogating to themselves to be more than the peers of our best faculties, and some of the examiners are without either a medical or dental degree. Whatever we are as a profession, the colleges have made us, and we should be very careful how we legislate to their injury. They are, in my opinion, honestly doing their best to properly educate these graduates. I am proud to say, that so far as our State of South Carolina is concerned, a diploma from a reputable dental college is accepted as evidence of sufficient proficiency to practice. I hope our noble old State will always adhere to this position.

—Dr. W. C. Klatte, in *Southern Dental Journal*.

In taking impressions for partial plates, where the teeth are long and irregular, a good plan is to fill the spaces between the teeth with plaster, allowing it to harden—varnish and then take impression over all—after removing impression, take out the “cores” and place them in position—in impression.

Oil should not be used on impressions or bites, as it softens the plaster coming in contact with it—and its uneven flow prevents obtaining a correct model—collodion, sandarac varnish or soap are better, but I prefer a thin shellac varnish—paint the impression and soak in water a few minutes and then run cast; as soon as it hardens, remove impression—result—a hard smooth model.

Rubber plates should be of uniform thickness, care being taken in waxing up to avoid unevenness.

Surfaces coming in contact with the mucous membrane should be smooth. A cast washed with a thin solution of silex just before packing with rubber, will produce a smooth and polished surface without altering the shape of the model.

—Dr. G. E. Andrews, in *Review*.

I find by packing the bore of gold tubes and nuts with a few fibers of asbestos before soldering to regulate appliances, etc., that the solder will not flow in and choke them up.

W. H. Gage, Le Raysville, Penna.

MENDING BROKEN BANDS, CLASPS, ETC.—Split an Irish potato, imbed the porcelain, leaving the parts to be soldered just above the surface of the potato, close up the split in the potato, holding it together with binding wire, proceed to solder, no danger of cracking the teeth. The mountings of the finest stones can be mended in the same way without injury to the stone.

James T. Melton, Waco, Texas.

PROBLEM FOR THE STUDENT OF CHEMISTRY.—Given: A gallon of nitrous oxide, which is said to weigh $\frac{1}{4}$ oz., and $5\frac{1}{2}$ gallons of oxygen which is said to weigh 1 oz.

Required: To demonstrate the correctness of either of the above statements on the basis of the other.

W. S. Elliott, D.D.S., Sag Harbor, N. Y.

It is unwise and ridiculous to expect an exact knowledge of all the collateral branches taught in connection with the science of dentistry. Pathology and chemistry, for instance, are included in the curriculum of our dental studies, but only such a sufficiency as is essential to our profession. Neither medical nor dental colleges pretend to graduate experts in these branches of science. Chemistry, for instance, is as boundless and far reaching as space,

Dr. W. C. Klatte.

TO CUT SHEET BRASS MECHANICALLY.—Make a strong solution of bichloride of mercury in alcohol, and with a quill pen draw a line across the brass at the place at which it is to be cut. After this is dry, with the same pen draw over the line with the nitric acid. The philosophy of this is that the salt of mercury is decomposed, the free mercury amalgamating the zinc, and the nitric acid attacking the copper of the brass.

—Southern Den. Journal.

I am led by pure gratitude to express my appreciation of your valuable journal.

The October number comes laden, as usual, with a full quota of good, substantial items, and sufficient spice to give it the proper relish. No other dental journal furnishes us so nice an arrangement and proportion of facts and spice.

Will some one tell me how to cleanse wax that has been in use and collected light matter that does not settle when melted?

J. Wm. Graves, D.D.S.

Monthly Gossip.

BY WM. E. BLAKENEY, D.D.S.

"APOLOGY," says O. W. Holmes, "is only egotism wrong side out."

DULL INSTRUMENTS and stupid operators always lack an attractive polish.

SOME DENTISTS claim amalgams that oxidize most are the best. So much to the merit of rust.

FOR THE TREATMENT of alveolar abscess, carbolic acid and peroxide of hydrogen answer all the requirements.

HISTOLOGICAL METHODS AND RESULTS, is the title of an able paper by Dr. L. C. Ingersoll, published in the *International*.

IT IS THE OPINION of Dr. W. C. Barrett that in capping pulps and treating abscesses, antiseptics are useful but not sufficient.

"EVERY TOOTH," says Dr. V. H. Jackson, of this city, "should be encouraged to take a correct position in the arch when erupting."

THE DENTIST who does conscientious work and charges conscientious prices for it, is generally able to liquidate his current expenses.

SOME SAY, people who have nothing to give are the only cheerful givers; but we have found that the most generous givers are the most cheerful livers.

DR. E. A. STEBBINS, of Massachusetts, claims to have treated successfully incipient caries of both the deciduous and permanent teeth, with nitrate of silver.

DR. MAREY, by arranging his own apparatus, has succeeded in photographing the flight of insects; the exposure of the plate being necessarily not over 1-25,000th part of a second.

IT IS THE OPINION of Dr. M. G. McElhinney, of Ottawa, Canada, that "for the average practitioner, foot-power is as much superior to battery power as is power derived from a street circuit superior to foot-power."

DR. F. A. FLETCHER, of this city, claims to have devised a new and improved method of running the suspension dental engine by the electric current. The doctor's method is fully illustrated and described in the November issue of the *International*.

DR. RHEIN contends that it is possible to "lower the temperature to 40° below zero by the use of chloride of methyl, and that if it is inhaled, it produces general anesthesia." The distressing odor from this drug is a great drawback to its usefulness.

DR. CORYDON PALMER seems to be enduring anguish of mind because of the "lavish display of gold in the teeth of the people," which he thinks "is a disgrace to the dental profession." If patients insist on such a "display," and are willing to pay for it, what are you going to do about it, doctor?

"HOW TO TREAT QUACKS," is the subject of the leading editorial in the November *Dominion Dental Journal*. It would be difficult to adopt a uniform system of treatment for persons afflicted with this ailment. As a rule, however, large doses of public opinion, administered heroically, would prove partially effective, that is, to the quacks on this side of the line. The Canada quack is incorrigible.

OUR CLINICS, generally speaking, are badly managed. When a demonstration of a novel and interesting character is being made, the opportunities for witnessing it are so meagre that many are deprived of doing so altogether. "It is quite impossible," says Dr. Tabbott, "under the present system, even in local societies, to demonstrate an operation on an appliance so that all may become thoroughly familiar with its minuta." The doctor, therefore, urges that the committee divide the members into classes.

"FOR SOMETIME," says Dr. Gottschaldt, "I have tried a mixture of cement that is very thin—thinner than usual—and chloro-percha in sensitive and deep cavities, and I have found it of great benefit. It is easily introduced, and will stay where you put it, and it will harden in three minutes at the most without decreasing in bulk or curling up. It has proved very satisfactory in temporary teeth, and it does not seem essential that the tooth be perfectly dry; it sticks there quite well."

DR. L. C. RASSON, of Topeka, Kansas, has devoted considerable time to experiments with cocaine for the purpose of determining its value as a local anesthetic. The doctor has corresponded with many of the most celebrated surgeons in the country asking their views on this important question. From one of whom, a distinguished specialist, he obtained the following formula, which he has injected sixty times without producing any constitutional disturbance or unpleasant results:

Cocaine hydrochlorate.....gr 20.
 Sulphate of atropia.....gr 1-10.
 Carbolic acid crystals.....gr 10.
 Chloral hydrate.....gr 5.
 Aqua pure, add one ounce.

DR. GEORGE ALLEN closes his paper on the "Genesis of Contour Filling," with this excellent advice: "In preparing your cavity be careful to avoid deep undercuts or pits, and throw as little strain on the enamel as possible, and make clean, polished edges. In packing the gold, bear in mind that your filling must be homogeneous throughout. Perfectly fill the cavity and build up a series of planes, and in finishing imitate nature in the high polish you put on your work, for, do your best, you will fall far short of her beautiful handiwork. To do perfect contour work requires care and skill.

AMONG THE MANY METHODS adopted for adjusting a porcelain crown with a collar around the root, the one formulated by Dr. E. Parmly Brown seems the most practicable. The doctor describes it in the following words: "A collar is made of platinum to fit the end of the root, and the band is left wide enough so that it may be cut in slits all around down to the face of the previously prepared root; the projections are then bent down, one at a time, over the end of the root, forming a complete covering or cap. A Brown or Logan crown is then placed in position, the pin passing through the cap into the pulp canal, and cap and tooth crown removed together and fused together with porcelain in the furnace. The cap may also be soldered onto the crown."

"IN THE BUSY WHIRL of the competitive system those engaged in business are often less solicitous for the welfare of others than for their own success." * * * "The curse of the professions has been that many individuals have entered them for the sake of the fees, or because such professions seem to him an easy way of obtaining a good living." The above extracts are taken from a paper read by W. A. Knowles, M.D., D.D.S., on "Dental Ethics," before the California State Dental Association. We think the doctor would experience considerable difficulty in finding a man or woman in either one of the learned professions who did not enter it for the sake of prospective fees for services rendered. And we venture the assertion that the learned gentleman himself would abandon the profession of dentistry in disgust, if he did not receive very liberal compensation for work done in the way of those awfully awful fees. The doctor has wisely identified himself with a profession in which "an easy way of obtaining a good living" is within his reach, and he makes the most of it.

Our Question Box.

WITH REPLIES FROM OUR BEST AUTHORITIES ON DENTISTRY.

Address all questions for this department to DR. E. N. FRANCIS, Uvalde, Texas.

Question 25. *I often read in the Items and other journals something as follows: A patient suffering from ear-ache, partial blindness or insanity, had a carious molar extracted and recovered immediately. Now had that tooth been treated and filled, whether pulpless or not, would there have been the same result?*

My diagnosis is, in this case, hypercementosis and the only treatment is careful extraction.

Fred. I. Sumner, Norwich, N. Y.

No. The same irritation would still be present, even if the tooth had been treated.

F. H. Ellsworth, Wellsville, N. J.

If the tooth had been properly treated it might have been kept in the mouth comfortably.

R. E. Watkins, Eutaw, Ala.

I do not think filling or treating would produce permanent relief if the tooth caused the trouble.

W. A. Moore, Benicia, Cal.

Here is where judgment and correct diagnosis is wanted. If pulpitis, abscess or a severe case of periostitis was the cause of trouble, I think treatment, as the case demanded, would have resulted in a cure, as the extraction did, but if the trouble was caused from exostosis or pulp nodules, extraction was best.

Thos. P. Williams, D.D.S., Bellville, Tex.

Very likely—not certainly. As these reflex symptoms are due to irritation to a nerve terminus—generally an exposed pulp—by capping or extirpation we remove the cause, thus obtaining the same result as by extraction; still there are cases: the wisdom teeth when necessitating extirpation and subsequent treatment, abscessed, worthless roots and badly broken down molars, where it would be more humane to extract rather than compel the patient to undergo the necessary procedure attending treatment and filling, where our efforts might meet with failure.

A. Pagenstecker, D.D.S., San Antonio, Texas.

Whenever a tooth is said to produce or induce a disturbance quite remote from its locality it must be from some condition effecting either its pulp or pericemental membrane. If it should be a putrescing pulp, careful treatment resulting in a thoroughly antiseptic condition of pulp chamber and root canal, with proper filling and restoration of pericemental membrane to a normally healthy condition, then there is little reason why the previous disturbance should not subside; but if the local condition should be from excementosis of root, or exostosis of the socket, or chronic thickening, or irritation of membrane or pulp, from diversion of nutrition, or any cause whatever embracing malocclusion or non-occlusion of teeth or other imaginary condition that can not be reduced by treatment, then the removal of the offending organ is positively indicated and if the diagnosis has been correct the result is happy. It is well recognized that the cause of such lesions as you have described are due to the fact that irritated nerves may, and indeed do, frequently cause severe pain quite remote from the seat

of disease; this response of an irritation or abnormality is in the terminal filaments of said nerve, hence whenever branches of irritated nerve may be distributed, there will be the expression of pain whether that be in the eye, ear, tooth or brain.

C. N. Peirce, 1415 Walnut St., Phila. Pa.

Question 26. *A lad of fourteen called to have a first superior molar extracted; this was done without difficulty, but immediately agonizing pain followed, nearly causing convulsions. The socket was filled with cotton saturated with carbolic acid and chloroform, which relieved it for a half hour, but the pain returned with the same intensity as at first, and thus the remedy had to be applied repeatedly for two days and nights before the pain would desist. The tooth did not present an abnormal condition except inflammation surrounding it; none of the alveola came away; the tooth was large and roots long. In my practice of sixteen years I have seen but one similar case. Was the dental nerve exposed or what was the trouble?*

Branch of the dental nerve was so lacerated as to develop the neuralgic pain. It was not specially exposed.

E. H. Ellsworth.

I have never met a similar case, but have had no trouble in relieving after pains of extraction by using a pellet of cotton moistened with a saturated solution of gum camphor in sulphuric ether, placed in the socket.

R. E. Watkins.

The severing of the nerves, together with the force necessary for the removal of the tooth, might be the cause. I use injections of warm water, pressure laterally with my fingers and insert a pledget of cotton saturated with "Heaven's Cordial," the formula found on page 139, Vol. 12, ITEMS, 1890.

Fred. I. Sumner.

As the tooth was large and roots long, it required some force to extract and (being an upper molar) an outward pressure to dislodge it. No doubt the alveola plate was fractured lengthwise to quite a depth, and probably the ends did not perfectly meet again, thus pressing on each other, creating an acute periostitis which lasted till the edges were absorbed, thus relieving the pain.

A. Pagenstecher, D.D.S.

The distention of the gums and blood-vessels surrounding the tooth, was the main cause of pain. Had you pressed the parts together and relieved the distention immediately after extraction, think you would have had no trouble; then the condition of the system may have had something to do with it. We can all advance theories regarding these remote cases, but they are only theories, and the trouble may be due to idiosyncrasies of which we know little.

Thos. P. Williams, D.D.S.

The peridental membrane had been for some time in an inflamed condition, and if tooth is extracted just at a certain stage of inflammation, it will produce distressing agony, which though abating somewhat in its severity in the course of half an hour, will continue for several days and oftentimes result in necrosis of quite a portion of the alveola. The most effectual remedy is a stimulating application, such as chloroform and capsicum tincture, following it next day with dilute sulphuric acid.

C. N. Peirce.

FROM CORRESPONDENTS AND SUBSCRIBERS.

Question. *In setting bridges and crowns I have had several lately to reset, finding the cement in crowns perfect. Why do they loosen? I use the best brands of cement; mix to a thick, creamy consistency; dry the teeth to be crowned and keep dry till the cement sets, always coating with sandarac varnish soon as placed in position. If I do not set the crowns and bridges correctly (as above) please tell me how?*

Student, B. D. C.

Some cements are but little affected by moisture, while others are ruined by just a slight moisture oozing from the apex of an imperfectly sealed root. Many cements should be mixed much thicker than "a creamy consistency," especially slow setting ones; but as the cement sets perfectly in your crowns the trouble is undoubtedly owing to moisture. Many roots apparently dry, become moist before the cement is mixed and placed in them. Wipe out root; absorb all moisture from free margin of gum; from and between all surrounding teeth; dry thoroughly with hot air; mix cement thick as can be well worked, and hastily crown. Do not "coat with varnish soon as placed in position." Dissolvents used in varnish penetrate quicker and deeper than saliva and should not be used till cement has hardened.

Dr. R. K. Answers to your question regarding treatment for dead pulp in temporary teeth will be found in *ITEMS* for April and June, pages 233 and 360.

NO ONE TIME TRYING WILL INSURE A CORRECT BITE.—The last *ITEMS* contains an "unfailing method" of obtaining a correct bite. I can place my tongue to roof of mouth and close it to right or left, in or out. I do not think that method can be depended on at all, in fact I do not believe there is any sure or unfailing "one time trying" that will insure correct result. I never knew of a case where a bite was gotten too far under or back, but nearly all are inclined to bring lower jaw too far forward when there are no natural teeth on upper side. In partial cases, of course, the remaining teeth are the guide to closure. I have my patients try several times, or till they shut many times in the same place, and always get it as far back as possible.

A. A. Hazeltine, New Bedford, Mass.

A current paragraph (emanating from the *St. Louis Globe-Democrat*) warns oyster eaters that the popular bivalve should be cooked before eaten, as it may become affected with trichine, by absorbing such germs as might float off from affected pork thrown overboard. The trichina, however, is like many persons old enough to vote—he doesn't like water. He can't live in it, a fact which makes the oyster pretty secure from his attacks.

For Our Patients.

SIouxEYESIGHED.

If an S, and an I, and an O, and a U,
 With an X at the end, spell *Su* ;
 And an E, and a Y, and a E spell *I*,
 Pray, what is a speller to do?
 Then, if also an S, and an I, and a G,
 And an H, E, D, spell *cide*,
 There, nothing much left for a speller to do
 But to go and commit *siouxeyesighed*.

—Pearson's Weekly, kindness of Isidor Furst, N. Y. City.

ROOM AT THE TOP.

They say the professions are crowded
 By seekers for fame and for bread,
 That the members are pushing each other
 As close as their footsteps can tread.
 But be not discouraged, my brother,
 Nor suffer exertion to stop ;
 Though thousands are pressing around you,
 There's plenty of room at the top.
 Be true to thy love and thy country—
 The dastard wins never a prize ;
 But the earnest are ever the victors,
 And he who on justice relies.
 Who wins the good guerdon, by labor,
 Will garner sweet rest as his crop,
 And find as the hills sink below him,
 That there's plenty of room at the top.
 O, let not the evil disturb you,
 There's good if you but search it out ;
 Make pure thine own conscience, my brother,
 Nor mind what the rest are about.
 And whether your word may have fallen
 In sanctum or office or shop,
 Remember the low grounds are crowded,
 But there's plenty of room at the top.

Husband—"Getting that tooth pulled hurt pretty badly, didn't it?"

Wife—"No; I just thought of all the mean things you had versaid to me, and it made me so mad I forgot all about the tooth."

A BUSINESS MAN.

"Be you a dentist?" said a backwoodsman, as he presented a rather wrinkled old lady.

"Yes, sir. Anything I can do for you?"

"Well, I don't know, Doctor, this is Mandy, my wife. She's had the toothache, an' 'lowed maybe ye could pull it 'ithout hurtin'."

"Certainly, I can give her vitalized air"—

"Hey? What's that?"

"I can hypnotize her"—

"Look h'yer, youngster, that kind o' talk don't go, about Mandy. The first thing ye know ye'll be looking cross-eyed out o' the back o' yer head. Hip—what's that ye said, ye gimlet-legged algreen?"

"Oh, come," said the dentist, "that's a medical term, meaning that I can make her unconscious."

"Huh? Make Mandy unconscious? Doctor, we've lived together forty years, and no storekeeper has ever been able to cheat her in a dried apple trade yet. Mandy unconscious—Not much!"

"Well, if the lady wants the tooth removed I can take it out."

"Fur how much, Doctor?"

"Fifty cents."

"Mercy sakes! I can tie a string to a bullet and to the tooth and shoot it out for less than one-twentieth o' that sum."

"That's the regular price."

"And what's a tooth worth to put in again?"

"One tooth is worth three dollars."

"Well, now, Doc, look h'yer. You pull that tooth for Mandy —'ithout hurtin', mind ye—an' ye can have it. Course it's a little colored, but ye can brighten it up. I wouldn't mind even payin' ye a little suthin' for taking it out—say a quarter. Ye can mount the tooth and git full rates fur it"—

"I'm not keeping a bone yard, friend," said the dentist.

"Well, now, listen! Why, Doc, that's a good tooth. Mandy's smoked and dipped snuff some, but the tooth is a good one"—

"For mercy sake, have it pulled ef yer goin' to," said Mandy, who was wild with toothache.

"What do ye say, Doc?"

But Mandy rushed out indignantly.

"Now, jes' look at that. When I'm willin' to spend any amount to relieve her sufferin' she rushes off like mad. You couldn't take the tooth in pay, Doc"—

But the dentist was gone also.

"Well, the only thing left is for me to go home, tie a string to that tooth and to the door-latch, and slam the door. Pity these dentists can't talk white."

And he slowly followed Mandy.

A DENTIST TAKING GAS.

I began to read and re-read the sign on the window: "Teeth extracted without pain," while the prop was adjusted and the administration of the anesthetic began. I soon recognized the presence of ether in combination with the nitrous oxide. I was admonished "not to be afraid, but breathe full and deep;" the precaution was wholly unnecessary.

I had taken nitrous oxide "for fun" many times, and was well acquainted with both ether and chloroform, having often used them in severe nervous headaches, in years past. Knowing the operation before him, feeling full confidence in the gas and vapor administered, I at once concluded to assist the operator with all my might. In the early stages of the administration my attention became riveted on the single word "pain" on the window before me. And then passed before me a procession of the "chestnuts," clinging around the words "teeth extracted without payin'"; "that it don't 'pain' the operator to extract teeth," etc., etc. I also employed all my energy to take as much of the anesthetic as possible; in other words, I was fighting to remain conscious and to resist the encroachment of the drug and gas. I filled my lungs full and deep. I endeavored to keep my pupils dilated, and to have my eyes retain the appearance of consciousness, to keep up the eyelids, and not allow my hands to drop; in fact, I tried my best to oblige him to give me all I could possibly inhale, and I chuckled with considerable delight when I distinctly heard him twice—at least—turning on more gas. Of course, I don't know when I became unconscious. The next thing I knew I was listening to a discourse delivered by a benevolent-looking old gentleman with light-blue kindly eyes and a long, gray beard. The subject of his conversation was the manner of getting along in this world. It seemed that he himself has had a difficult road to travel, his path was strewn with thorns, but he evidently had considerable determination to get along. Pretty soon, in the course of his conversation, I became aware of the fact that he intended to impress on me forcibly the point of his remarks, and the next thing, to my astonishment, I find this nice, benevolent

old gentleman "picking his way with an ax"—*through me*. I could not quite understand his purpose, though I was quite conscious of what he was doing. I concluded that the location which he desired to reach with his "ax" was the interior of the cranium. I soon realized that he had safely passed through the soft tissues, and was now at work pretty well up in the superior maxilla, and had evidently struck a root which he had to get out of the way; and, while he kept constantly muttering about his method of "picking his way with an ax," I noticed he had discarded that tool and was using something more like a chisel.

I distinctly heard the pieces he had chipped off falling into my mouth. I then became satisfied that this was the last act through which I would pass in my life, for I was sure the end was near. While quite willing to let him go ahead in his own manner of "picking his way," I thought how much simpler it would have been had he picked his way in from the outside of the skull. I knew very well that he intended to puncture a certain part of the cerebrum and thus destroy life, but I could not comprehend his object to have a root of a tooth gotten out of the way so he could enter the antrum, and then pick his way on the other side of it up into the cranium. While musing on this intricate point, to my astonishment he ceased operations when the root was out of the way, and the next thing I noticed was a spittoon in my hand into which I was spitting blood, and a gentleman who had found two roots on the floor, and was diligently searching for the third one, which was also found.

—Review.

A lady met a new-found friend, and wished a better acquaintance:

"Walk into my parlor," said she.

"Would you not rather do me the honor of visiting my drawing-room?" he replied. "I have entertainments there that draw. I take great pains to make people happy."

"What! have you drawing-rooms? I certainly will come and see them. And what are your plays?"

"It seems singular, but the first families in town come, not so much to see the entertainment, as to see how wonderfully I can draw. As for young ladies, I give them my best chair, and then they give me a right royal fee for making them happy. They don't really laugh, but they go away smiling, and send others to empty their purse on my table."

"You don't say!"

"Yes. I am a dentist."

Current Notes.

Dr. Bonwill, not Bonwell, as a writer has it in November *ITEMS*, promises to give us in detail his use of paraffine as a covering for oxyphosphate; and, also, his manner of manipulating alloy, etc.

I made a very careless remark in a recent *ITEMS*. I ought to have known better. An esteemed contemporary shows its error, but delicately refers to its origin only as "a dental journal." Thanks.

The difference between a successful man financially and a failure is, the first lives within his means, the other does not. Both may earn alike, and have the same expenses; but one will be a little ahead of his expenses, the other is sure to be a little behind them.

The smoothest and most plastic plaster, free from bubbles, is made by sprinkling the plaster into the water, instead of pouring the water into the plaster. By a little cup with a sieve bottom this is done very rapidly. Add plaster till it appears above the water, then stir vigorously.

Hamlin's Wizard Oil is said to be made of 1 pint alcohol, 1 ounce camphire, and $\frac{1}{2}$ ounce each of oil sassafras, tinc. myrrh, tinc. capsicum, and chloroform. Certainly these make a fine combination for a linament, and must be beneficial, taken in small quantity, for many internal ailments.

William Allen, nationally known years ago as "Land Bill Allen," because he originated and pushed to success the National Homestead Law, giving to each actual settler a hundred acres of land, was taken to the poor house the other day. He spent his fortune for others, and dies in poverty himself.

What would we think of a surgeon who used dull instruments? And there is no excuse for us. They always hurt more than when sharp, and unnecessarily retard work. Those which can be sharpened should be kept "as sharp as a razor," and burs that cannot be, should be put aside for repair, as soon as they cease to cut well.

Scarcity of dental instruments, and dull and dirty ones, are inexcusable.

We should not fail to do thorough work, though it may produce pain; but we should so conduct our operations as to convince our patients that we are not harsh, cruel and indifferent to their sufferings, but that we save them all possible discomfort consistent with good work.

TRY THE NEW.—Some dentists are terribly afraid of being humbugged; of course, we should be reasonably cautious; but to be always on the defensive and so afraid of being deceived and defrauded as never to try anything new till every one else has proved it a success, is cowardly and selfish. Better pay out money for some things that are useless than to miss many things that would be advantageous.

In your practice, be distinctive. Do something others cannot do, or at least, that your competitors do not do, and that the public will appreciate and give you credit for special skill. Be conscious that your work is a little better, your sphere a little higher, and your progress a little faster than those around you. There are better ways to bring the crowd, but this will ensure the most profitable patronage; other means may bring you more immediate returns, but this will make success more permanent.

We saw our son Charles build up a bicuspid recently in a quick, easy way, and we should judge it must prove permanent. The process is so economical, and so especially appropriate to frail teeth that we venture to describe it. After cleaning the root and cutting away the frail walls and cleaning and shaping the cavity, the rubber dam was applied and the root filled with cotton thoroughly mixed with oxyphosphate. The cavity was then nearly filled with creamy oxyphosphate, and Watts' crystal gold, in small pieces, was immediately partly pressed into it so as to cover the whole surface, but not in any degree condensed. When the cement had hardened, the gold was added to and packed, first around the edge and gradually toward the center, till the cavity was filled. Of course, care was taken that no cement was left on the walls near the surface,

Few would have ventured to fill this frail tooth with gold only, and it was too prominently in sight to be filled with alloy. An admirable advantage of creamy oxyphosphate is that it as tenaciously adheres to the walls of the cavity as though you were mending Chinaware with it.

Notices.

Forty-one years is a long time to be in the practice of dentistry, yet Dr. Langdon Gilmore, Kennebec, Me., has just ended such a practice, and an honorable and a successful one, and gone home to rest.

Owing to the difficulty of securing a full attendance of members in December, it has been decided to postpone the meeting of the Maryland State Dental Association till the 9th, 10th and 11th of May, 1892.

P. Blakiston, Son & Co. are becoming noted for the publication of medical and dental books and appliances. Not least in their catalogue is their Pocket Visiting List for 1892. It is a complete companion and not a mere blank book.

The Secretary of the State Board of Health, of Iowa, announces that he is convinced that habitual drunkenness constitutes "palpable evidence of incompetency," as the law reads, and therefore the physician given up to inebriety should be deprived of his certificate entitling him to practice in that State.

The First District Dental Society of Illinois held its annual meeting at Peoria, on September 8th and 9th.

Valuable papers were read by the members of the Society and interesting clinics held. Dr. E. K. Blair, of Waverly, was elected President; O. M. Daymunde, of Monmouth, Treasurer, and W. O. Butler, LaHarpe, Secretary.

Peoria was selected as the place of meeting on the second Tuesday of September, 1892.

ORANGE, N. J., November 12th, 1891.

My attention has been called to the fact that the name of the Dental Department of the National University of Washington, D. C., does not appear in the list of colleges which the National Association of Dental Examiners recommends of the various State Boards to accept as reputable. In justice to that college, I would state that the omission is an error, the correction of which the State Boards will please take notice.

Fred. A. Levy, Secretary, N. A. D. E.

Editorial.

WHAT IS THE OFFICE OF THE EDITOR?

It is certainly not merely to write editorials. Some of our best writers are poor editors.

It is not simply standing at the door and determining who shall be admitted and who shall not. Judgment of choice is a great gift in an editor; but this is not all.

It is not simply to run over what is accepted, to correct its grammar and punctuation. There is scarcely an article received that does not need some elimination, reconstruction, and balancing of parts.

One of the most successful editors in the United States is the man who presides over *Littell's Living Age*. Yet he seldom writes an editorial. His skill is in selecting, condensing, and so preparing what he gathers from a multitude of sources, as to make a journal spicy, varied, and interesting, the most important of current literature.

This is a busy age. The masses of readers have not time to read everything, or to read in the greatest detail what is really important. They want the cream.

Some editors have still more to do. Their articles come mainly from the masses who have not the ability to write well, though they may have good ideas. These communications must be digested, condensed, and re-arranged, sometimes almost rewritten to make them acceptable to his readers. It takes time and patience and great discretion; but all these must be freely given if the editor would be successful. Even many articles that are "not wanted" must be criticised with delicacy, and returned with appropriate compliments.

Another dentist has left wife and children without money, or any means of support,—utterly destitute, though fifty dollars a year, and perhaps half that, would have given them five thousand dollars insurance. It is too bad.

"But it is not every dentist that can save fifty dollars a year for insuring his life."

There is not a dentist that cannot, and that would not, if he properly appreciated the advantage. Some dentists would not save fifty dollars a year if their income was five thousand dollars. A majority of dentists are spendthrifts; and they live without any settled plan of saving and expenditure.

But, my dear fellow, if you cannot lay up fifty dollars a year, how can your wife and children live on nothing when you are gone? Away with such a frivolous excuse. If you have some important object to save for, you will soon be sufficiently forehanded to do so. You can save fifty dollars a year for life insurance, and have more left than without this saving,—and another fifty for some other worthy object, and have still more left. Saving begets economy, industry, and thoughtfulness,—yes, and hopefulness and cheerfulness and domestic felicity.

And what a satisfaction it will be to you in dying to know that though your family will be deprived of you, you are leaving the material means for their comfort.

HOW HAS THE MIGHTY FALLEN?

In traveling through a western city, I called for a little chat on a notably ingenious dentist. He had, for many years, maintained a large practice, and been popular.

My first impressions were unfavorable. Things looked dirty, unkept, and out of order. A boy answered my inquiry, saying the doctor was out, but he would call him.

"Oh, no," I replied. "I have called only in a friendly way, as a fellow dentist; tell me where he is, and I will make his acquaintance there."

"I cannot tell you, but can find him," and out he bounded.

The man soon came in, looking for all the world like his office, (we can generally tell, by the looks of the office, what the dentist is.) He was seedy in clothes and visage. As he took me by the hand, I was quickly made acquainted with the secret of all this dilapidation—from his breath came the fumes of beer and tobacco.

With that foul breath had gone his business, his good reputation and his money ; his friends, his happiness, and his health. Death—grim, sepulchral, revolting death—smelt so strong, looked so bony, and grinned so horribly, I turned away, almost in a faint.

He must have noticed my embarrassment and disgust. He tried to apologize. He did mutter something, and sat down—and I stepped out, as from a stifling tomb.

A great oak was the landmark for travelers for many years. As I passed one day it was prostrate. I said to my companion, "A mighty wind has done this." "No," he replied ; "come and see." At a distance, it seemed to have fallen in all its greenness and strength—a sudden catastrophe. At a nearer view, I found it so rotten at heart, so thoroughly decayed from core to bark, that it had evidently fallen almost of its own weight. It had been gradually dying for years ; and, therefore, though it had stood amid many a hurricane, great, grand and green, dead branches had gradually appeared, the woodpecker had found worms beneath its bark, and its lofty trunk swayed more than of old in the midst of storms, till, at last, only a moderate wind was sufficient to lay it low.

CLEAR, TERSE, CONCISE WRITING.

If writers would confine themselves to one central thought, and master that, we should have less random writing. Even then, they could shorten their talk by immediately entering on their important facts, omitting the stereotyped preface, and stopping when they were through. Then, instead of assuming length meant depth, and a shower of verbifage completeness, they would see how brief and clear they could be.

Much in little, well said, should be our motto. And this is becoming the prevailing style of our best, and most popular and useful writers.

Horace Greeley was not a learned man. He came up through embarrassing ignorance and hard fare, hard knocks and dire necessities, without scholastic advantages, and with no rich uncle or

patronizing friends. He thus worked on alone into literary business to success. From the backwoods to the establishment, editorship and ownership of the great *New York Tribune* was such a short cut, and was so rapidly run, he had no time to change his crow's tracks for elegant chirography, or common speech for the highflown style of the schools. He came to New York with only a loaf of bread under his arm, and a bundle on his back. His fingers were so stiff with hard work he could scarcely get employment in setting type. But through all the stages, from "devil" to editor, his good sense, studious habits and indomitable perseverance conquered everything. He never had a mind for more than hard facts, yet, in speaking and in writing he became a model of simplicity, terseness and brevity. He used few embellishments, no superfluities, no high sounding words and phrases; but his style was so clear, so plain, and so well expressed, that it was admired by the learned and by the common people. Some thought his ideas were so thinly clad, they appeared almost naked. Perhaps he went to extremes, but in its simplicity his composition was certainly beautiful; in its brevity it was strong; and in its clearness it was unmistakable.

It is a good thing to cultivate such a style, though, perhaps, it might be improved by the beautiful melody of silver bells. Let them peel out their enchanting music. Beautiful bells, chime on. But, even harmonious cords, delicious cadence and eolian whispers of heavenly singing, must make the ideas of the anthem dance more beautifully and more conspicuously, or all these accessories are as sounding brass and tingling symbols.

HOW SHALL WE ADVERTISE?

It is well to have dignity and professional etiquette, and reserve almost to reticence; but if you would make your mark in the world, or even in your business, you must become known. Your reputation is a part of your capital in business. This getting and keeping before the people is a delicate matter. It will not do to be rude, blandent or egotistic; but modesty, good sense and unobtrusive tact will find a way.

You may shrink from it as indirect advertisement, and you may think the public ought to seek you, and not you the public; but you must remember that in your capacity as a dentist, you are a public character, serving the public, and you are expected to be open to public inspection. And besides your character as a dentist, you are expected to have a public character and to be public-spirited. All this you must establish to some extent before you can expect the public's confidence.

Therefore, to sit in your office sucking your fingers, or still worse, sucking your cigar, and nursing your professional exclusiveness, pride and esthetic conceit, is not the way to get business. Instead of avoiding the people, or even the printer, for fear of the stigma of advertising, and yet expecting the public will find you out, you must mingle with them, be one of them, and seek their interest.

You will become known in some way, for better or for worse, in spite of yourself. The principal question is: How and what will you advertise? Shall it be an out-of-the-way office, cheap, dingy and repulsive, or one conveniently and fashionably situated, easy of access, neat, clean and inviting? Will you advertise an unprofessional, awkward, ill-dressed adventurer, or one whose very appearance invites the most refined, and intelligent, and well-to-do classes? You and your surroundings, and your manners and ability all advertise you for better or for worse.

The increased attention given to practical instruction, and the requirement of skill in manipulation, are important improvements in dental colleges. This was not so essential when, before going to college, a dental student spent a year or two under a preceptor, and also did considerable chair and laboratory work on his own account. Now, most young men go to college direct from the common school, the farm, the clerkship or mechanic's bench; and unless at college, they are kept doing dental work as well as hearing lectures, using their fingers to acquire skill as well as studying books, they come out poor, egotistic, useless theorists; any boy, six months under a good operator, can teach them many lessons of practice.

First accuracy, then rapidity, should be the motto of every dentist. In his own and in his patient's interest he should acquire speed; but, unless every stroke is skilful, the aggregate will be imperfect. We have seen beginners hurry as though they considered deliberation a disgrace; and we have seen old operators slow, because they were too lazy to work rapidly. Both are blameworthy. Our patients expect skilful work, but dental operations are too painful and disagreeable to be made tedious.

But we must acquire accuracy, before we attempt rapidity. The young dentist hurries on in his self-confidence and never has failures till they come back to him in increasing numbers; even then, he attributes them to frail teeth, and every other cause but poor workmanship. But if he is honest and observing, he will awake to his error, blame himself, and do better. The old operator seldom changes from his slow gait. He has slowed up so gradually, he cannot see his fault; and as his patients gradually leave him for young workmen of skill and rapidity, he thinks it ungrateful.

A young Japanese girl has entered in a dental college in Chicago, "determined to push her way to success." But she'll find that she'll have to pull her way to success in our profession.

Here we end another volume of the *ITEMS OF INTEREST*. Will not all who have followed us, during the last thirteen years, say we have made substantial improvements? And in our circulation we have, gradually, past every other dental journal. We will not boast, but be thankful for our success, and try to do still better for the future.

We started out with the idea that there were plenty of dental periodicals of a general character, but, that there was a place for a busy man's paper. The profession has approved our judgment, so that the little paper has grown to be a first-class magazine; and a local circulation, to one reaching all English-speaking nations.

We will continue to give the cream of dental news in condensed articles and paragraphs; and even our correspondence and more extended essays, will be of the most practical character.

(769)

GENESE CROWN.

Patented, June 17th, 1890.



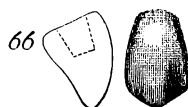
Centrals.

**Labial.
Laterals.**

Neck.

**Lingual.
Cuspids.**

Bicuspid.



PRICES:

Less than \$10.00 lots, per Crown.....	35 cents.
In \$10.00 lots, per Crown.....	33 "
" 25.00 " "	32 "
" 50.00 " "	30 "
" 100.00 " "	28 "
Platinum Posts, each.....	25 "
Holders for Investing, each	2 "
" " " per doz.....	20 "

THE GENESE CROWN.

THE crown is of porcelain, and contains a small platinum cup, burnt in, into which the post that enters the root canal is soldered. The crown is then adjusted to the root, and cemented into it in the ordinary way.

We claim:—

A perfectly natural-shaped crown that can be accurately fitted to the most difficult position or articulation with little grinding, leaving the fastenings strong and intact.

The post is absolutely in its proper position to the root and crown without undue strain on either, and can be adjusted to bifurcated and molar roots.

No enlargement of the root canal is required except to remove soft dentine; as the posts correspond to the general shapes of the canal.

Hollow post cones are stronger than solid ones.

If accidents occur, it is not necessary to remove the post, as a new one can be placed into the old one.

The patient experiences no such fatigue as in fitting an ordinary crown; for, when the root is ready, a model can be taken and the crown fitted accurately to it in the laboratory; the crown is strengthened by the soldering and the union can be made so perfect that no disintegration of the cement takes place.

Directions for Setting a Genese Crown:

Prepare the root and canal in the usual manner, take an impression so as to obtain a model that will give accurate articulation.
Fig. 1.



Post.

Choose the crown suited in form and color to the case. Select a post (Fig. 1) that will fit the canal easily and tightly. Having the model prepared, grind the crown to fit the root and articulate with the opposite tooth.

Fill the apex of the root with any substance which the operator has found to be the most serviceable, to prevent the cement from being forced through the apex. Place the post in the canal and try the crown on the root with the post in position; if the post be too long file it off till the platinum lining of the crown and the post touch with the tooth in the desired position.

Dry the tooth and post. Fill the platinum cup in the tooth with Fowler's Sticky Wax. Warm the post, tap it into place in the tooth, and finally adjust as you desire. Cool the tooth with water, so as to harden the wax in the cavity; and then carefully remove the tooth and post.

Mix any investing material—Teague's Compound is the best—press the tooth into it, and with it cover the tooth, except the cavity, letting the holder (Fig. 2) support the tooth

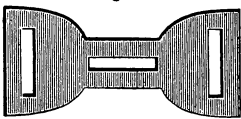


Fig. 2.

Copper Holder.

invested in the lower part, the end of the post coming through the slot. By putting the investing material over it, the post and tooth will be held securely in place, as illustrated in Fig. 3. This will leave the end of the tooth and post clear to view.

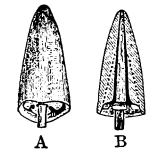
When the investment is dry, pour boiling water over the wax, to remove it from the cavity. which should then be clean and dry. Add the flux. Put thin strips of solder around the post touching the platinum lining. Gradually heat the investment, and when thoroughly dry, solder.

When the crown and post are ready for cementing into position, dry the root canal. Rub up some amalgam dry; mix a sufficient quantity of oxy-phosphate of zinc; add to this an equal bulk of the amalgam and work up together. This will give a slow setting cement of great density, and one impervious to moisture.

These teeth will not crack on rapid cooling, and are ready for inserting five minutes after soldering. They may be ground into any form, and repolished.

The post may be barbed, and it may be found advantageous to insert a wooden point into a plugger or any mallet, and with it give a few taps, which will drive home the crown securely and in the right direction.

Fig. 4.



A.—Frail root with pin and collar in position.
B.—Sectional view of A, showing how collar supports the post.

A frail root can be successfully crowned by using a disk of gold or platinum cut in star-shape with a center hole, slipped over the post and soldered into place (Fig. 4). This will steady the post and crown without undue pressure upon the sides. The fine part of the post will reach the apex, and the collar will support the base of the root. The openings in the collar will allow the escape of surplus cement.

A band (Fig. 5), can be put upon these crowns in the shortest space, having no overlays on the crown, yet soldered so thoroughly as to leave no weak point or space for entrance of moisture.

If desired to band instead of pivot, fit the band to root, having the crown adapted also. (No need of the band overlapping the crown.)

Take a plain disk of soft platinum or gold larger than the root, place it over the end of the crown and burnish it on, puncturing the center and turning it into the platina cup. The band is then placed on and waxed into position, invested, and the band, disk and tooth soldered together.

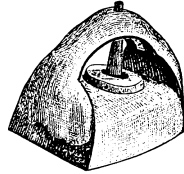
When trimmed up, the lower edge of the band is flush with the top edge of the tooth, leaving the crown clear of metal and only the narrowest band required on the root, with no possibility of moisture entering the space.

If the root canal is curved, use flexible drills for cleaning. Anneal the pivot post, apply a little vaseline and gently tap it into place; it will conform to the direction of the canal, and can be withdrawn for soldering.

If the platinum lining is filled with wax before grinding it prevents moisture or dirt from getting into it; and when warmed for fixing, the post is sure to be held tightly in position.

By making the investment high, it becomes easy to direct the flame around the tooth, making it hottest first, thereby forcing the flow of the solder into the cup.

Fig. 3.



Tooth invested, showing use of holder.

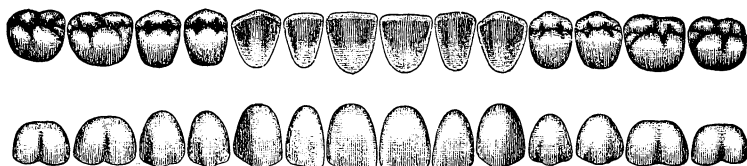
Fig. 5.



A.—Crown banded.
B.—Sectional view of A, showing platinum cup.

THE CRESCENT TOOTH.

Patented by Dr. E. A. FLOYD, in the United States, June 19th, 1888;
Canada, May 7th, 1889; Great Britain, June 4th, 1889.



THE illustrations on the following pages are of actual size, and show quite a variety of shapes. More will be added from time to time. The centrals, laterals, and canines as numbered correspond with the bicuspid and molars, and are so furnished in sets of fourteens. These teeth have had an extensive sale and are preferred by many for the following reasons :

1. They present the natural shape and size of the tooth on the lingual surface, and are, consequently, more pleasant to the tongue.
2. They are made to set over the center of the alveolus. This position gives a more direct and equable pressure in eating than other forms of teeth.
3. In cases where the gum protrudes, making it impossible to insert gum teeth, these teeth can be easily and elegantly adapted to the case by setting them far back or under the ridge.
4. The pins of the teeth being set in the deep groove or bottom of the tooth, vibration or change of position is impossible when the person wearing them is eating.
5. The perfect fit and adaptation of these teeth to the plate, render it almost impossible to accumulate anything under the teeth.
6. In articulating or in adjusting a set of these teeth, the use of the grind-stone is almost wholly unnecessary.
7. The bicuspid and molars all being "short bite," they can be used where a "long bite" tooth will not be at all available.
8. In swaging a plate in the flasks, it requires no packing, but it is all packed and swaged at the same time.
9. As these teeth are open on the sides, a continuous mass or ridge of the plate material is so formed as to produce great and unusual strength at this point of attachment to the plate.
10. Should a tooth get broken from the plate, a new tooth can be replaced in a few minutes, without even marring the polished plate, by simply removing the broken tooth and boring a beveled hole from the inside of the plate down to the tooth; then insert a tooth of the proper form, size and color, and set the tooth in cement or amalgam.
11. These teeth are so constructed that they can bear a great heat, and can be used most advantageously in bridge work.
12. These teeth mounted on rubber or aluminum, with pink rubber facing, will make a strong and beautiful piece of work.
13. Actual test of the Crescent Tooth has proved most satisfactory to the inventor, who has practised dentistry for thirty-six years, and his patients, and those who have used them; they are put upon the market with confidence in their integrity and practicability.

CRESCENT TEETH,

IN SETS OF 14's.

UPPER.

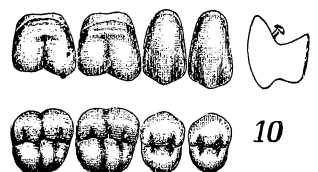
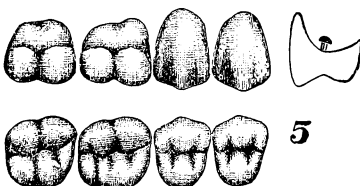
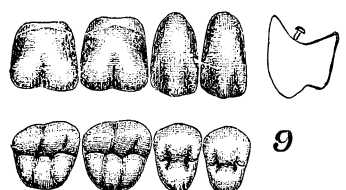
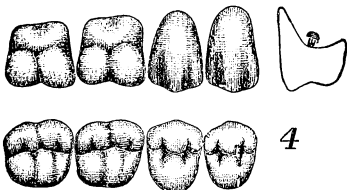
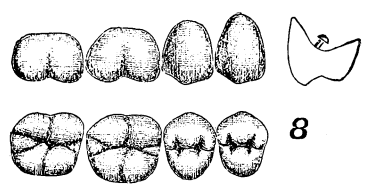
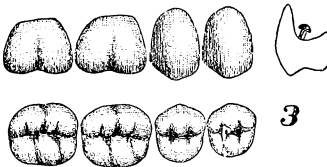
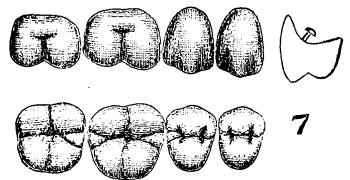
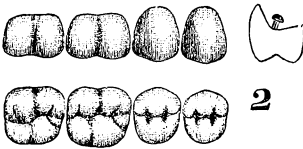
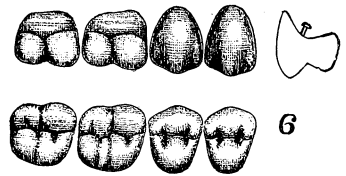


LOWER.



CRESCENT TEETH, BICUSPIDS AND MOLARS, IN SETS OF 8's.

UPPER.



(775)

CRESCENT TEETH, BICUSPIDS AND MOLARS, IN SETS OF 8's. LOWER.



PRICES OF CRESCENT TEETH.

Less than \$10.00 lots, per tooth.....	12½ cents.
In \$10.00 lots, per tooth.....	12 "
" 25.00 " "	11½ "
" 50.00 " "	11 "
" 100.00 " "	10 "

A NOTICE OF CORUNDUM GOODS.

We recently purchased seven tons of the *purest corundum* that has ever been mined, and from this date will use it exclusively in the manufacture of

CORUNDUM WHEELS,

CORUNDUM DISKS,

CORUNDUM POINTS,

CORUNDUM STUMPS.

We guarantee these goods to be made specially to meet the needs of the dentist, and can assure perfect goods.

THE WILMINGTON DENTAL MFG. CO.



DAWSON'S CEMENT is too well-known to need any new commendations at our hands. We can assure those who have never used it, that it is made of honest materials, carefully compounded and can always be relied upon. It is undoubtedly the finest plastic filling now made, and is equally adapted for crown and bridge work. We are now putting it up in oblong blocks with an engraved label, similar to cut. Dr. Dawson's signature is on each package, and our name and name of Cement are blown in each bottle.

Each package contains a bottle of yellow and gray powder and a bottle of liquid. The large size package has the powder and liquid in glass-stoppered bottles.

PRICES.

Large size, 2 colors.....	per package, \$2.50
Medium " 2 "	" 1.50
Sample " 1 color.....	" 1.00

In lots of 1 dozen packages, 20 per cent. discount.

THE RYNEAR GOLD FLUX

For Crown, Bridge and Plate Work.

This flux enriches the color of the solder, giving it a more yellow shade. It does not require moistening, as it at once adheres to the metal upon being slightly heated, thus overcoming the great objection heretofore found to the use of dry fluxes.

Price, 4-ounce Can, 50 Cents.

THE WILMINGTON DENTAL MFG CO.,

SOLE AGENT.



·IMPROVED·
MANUFACTURED BY

·THE WILMINGTON·
·DENTAL MFG. CO.

*Philadelphia,
New York, Chicago, Washington,
Wilmington, Del.*

This preparation of Dr. Dawson's has stood the test of years and still remains to-day what it has been always considered—the best.

We enclose the package in an engraved label similar to the cut, with Dr. Dawson's signature thereon, and our name and name of the oxy-chloride are blown in each bottle, making the possibilities of deception small.

Price, per package\$1.00

PARKER'S CLAMP—Improved.

(Patented Aug. 20, 1890.)

We have made an improvement on the Parker's Clamp, as has been illustrated by us, and now offer you a Clamp better adopted to the needs of dentistry. With the addition of an extension and double socket, its range is considerably increased. Will be illustrated next month.

Price, Improved\$1.50

COLORED LIGATURE SILK

will be found very convenient when it is necessary to use a number of ligatures in the mouth, the different colors preventing confusion in the adjustment or removal of them. Put up on spools of eighteen yards each and colored Blue, Gold, Pink, Purple and White.

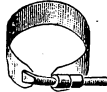
Price.....per dozen, \$1.50
" " spool, .13

ANGLE'S ADJUSTABLE CLAMP BANDS. FOR BICUSPIDS AND MOLARS.

For the Attachment of Angle's Regulating and Retaining Appliances.



No. 1—Bicuspid.



No. 2—Molar.

These bands were designed to take the place of the plain soldered bands as they are found to be more easily and quickly adjusted, and are less liable to loosen.

DIRECTIONS FOR APPLYING :

Carefully work the band over the tooth to be encircled, being very careful not to crimp it, and tighten the nut until the band is moderately firm, then burnish the band until it fits accurately the surface of the tooth in contact with it, and mark the points at which the attachments are to be made. Then loosen the nut and remove the band. After the attachments are made, carefully replace and firmly clamp, being careful not to tighten the nut so as to strain the thread. Care should also be taken to avoid heating the screw or nut more than necessary.

It is better to use cement in attaching the band, although it is not absolutely necessary.

These bands are adjustable and will fit all teeth commonly met with.

For abnormally small teeth cut the band, lap, and resolder. In this way small bicuspids and incisors may be fitted.

Jeweler's silver solder or 18-k. gold solder with plenty of borax should be used for making the attachments.

These bands will also make a neat and convenient matrix.

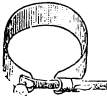
Price\$1.00

ANGLE'S FRACTURE BANDS.

Used in the Treatment of Fractures of the Maxillary Bones.



No. 3.



No. 4.

connected by ligatures of silk or fine binding wire in the form of the figure 8.

As shown in Fig. 1, it will be seen that the fractured bone is securely retained in the most favorable position for repair, by being firmly held in contact with the uninjured jaw by means of the fracture bands firmly clamped about the teeth, and

For a full description of Angle's system of treating fractures of the maxillary bones see GARRETSON'S ORAL SURGERY, last edition, also HASKELL'S STUDENT'S MANUAL, last edition.

These bands will also be found valuable in regulating the teeth where rubber ligatures are to be used. (See article in *Dental Cosmos* on "The Forceful Eruption of Non- or Partially Erupted Teeth." September, 1891.)

Price\$1.10

THE WILMINGTON DENTAL MFG. CO ,
SOLE AGENT.

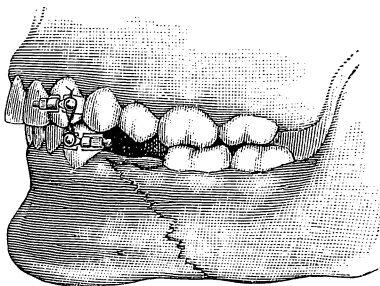


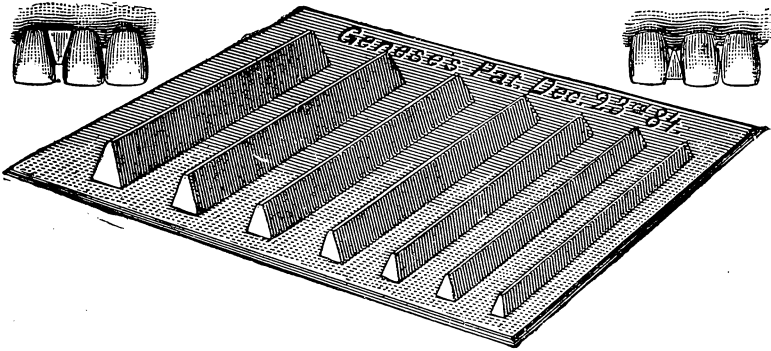
Fig. 1.

DR. GENESE'S GRADUATED RUBBER WEDGES.

FOR SEPARATING TEETH.

Patented December 23d, 1884.

Canadian Patent, June 15th, 1885.



Will not change their form in moisture or ball up by the heat of the mouth. Made in steel moulds under great pressure in steam (not acid cured) and free from all materials likely to cause irritation to the tissues of the mouth, such as common rubber, particularly gas tubing, which is made with a large amount of sulphide of lead. They will always retain the wedge shape in the mouth and return to their original size, thereby enabling the practitioner to control the distance of the separations desired, and to accomplish it so gradually that the usual pain and injury to the gums is avoided, and time saved, by the patient being enabled to adjust the wedges before visiting the dentist.

Price, Assorted.....per box of 30 pieces, 50 cents.

DR. GENESE'S WHITE RUBBER WEDGES.

(Patented Dec. 24, 1884.)

These are put up in boxes containing 25 Graduated Wedges and 25 Square Wedges. They are made with pure oxide of zinc, so that they can be used between the front teeth, without presenting the ugly appearance of black rubber. They are made with the same care and are of equal quality with the Black Wedges.

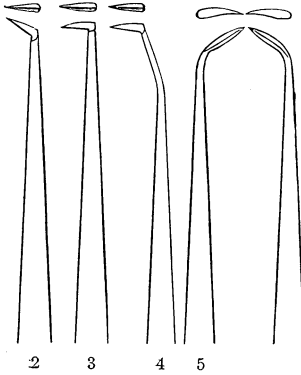
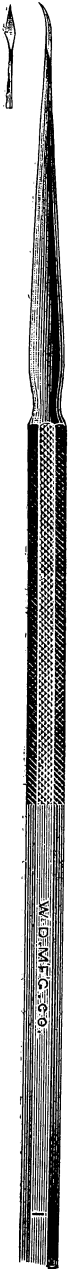
Price, per box.....60 cents.

CHANGE IN PRICE OF GENESE'S STEAM CURED RUBBER SEPARATING STRIPS.

Made of pure Para rubber and free from odor. Put up in boxes of fifty strips of assorted sizes, square and oblong.

Price, per box, assorted50 cents.
 " " large size.....75 "

Dr. E. S. TALBOT'S SCALERS AND ROOT TRIMMERS.



The original patterns were furnished us by Dr. E. S. Talbot, who says :

“The more delicate the instruments when properly shaped, and tempered so as to have sharp edges and not break, the easier and more successful will be the result.

Perhaps in no other particular is this more noticeable than in the instruments used in removing tartar from the teeth. They should be well tempered and so shaped that the operator standing outside the oral cavity may carry the instrument into the mouth, and reach all parts without materially changing his position. They should also be constructed so as to accomplish the most work possible without changing for others.”

The blades are triangular and the shanks so shaped that the greatest surface of tartar may be reached. The blade passes readily under the gum and between the teeth, the approximal surfaces of two teeth may be reached without the removal of the instrument. Then by turning the instrument to the right or left, the cutting edge will come in contact with the full surfaces, and the tartar will be removed. These instruments are constructed so as to be used toward or from the gum, having three cutting edges.

For the preparation of roots of teeth for the reception of gold crowns and bands, use Nos. 1, 2 and 3 exclusively, No. 3 being particularly employed.

PRICES.

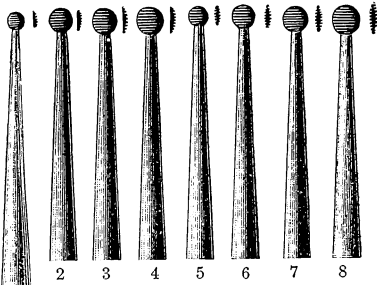
Octagon, File-cut Handles, Nickel-plated, each, 50 cents.

Points for Socket Handles..... “ 40 “

DR. D. D. SMITH'S APPROXIMAL TRIMMERS.

SMITH'S.

PIERCE'S.



These instruments are very useful for finishing the margins and cervical portions of approximal cavities.

They are made single and double faced, four sizes of each. Nos. 1 to 4 are single faced, and Nos. 5 to 8 double faced. They are made coarse cut and very hard, for trimming enamel and bone, and they are also made in the same sizes, fine cut, for dressing the gold after filling.

They are all made to work with the draw-cut, unless ordered differently.

PRICES.

Nos. 1, 2, 3, 4, Octagon, File-cut Handles, Nickel-plated.....	each, 50 cents.
Nos. 5, 6, 7, 8, Octagon, File-cut Handles, Nickel-plated.....	each, 60 "
Nos. 1, 2, 3, 4, Points for Socket Handles..	" 40 "
Nos. 5, 6, 7, 8, " " " " " "	50 "

PIERCE'S APPROXIMAL TRIMMERS.

These Trimmers are especially serviceable in all localities in near proximity to, and under the margins of the gums. Also in trimming frail enamel edges the operator will find them very useful.

Two sizes, both safe and single sided.

PRICES.

Octagon, File-cut Handles, Nickel-plated. each,	60 cents.
Points for Socket Handles.....	" 40 "

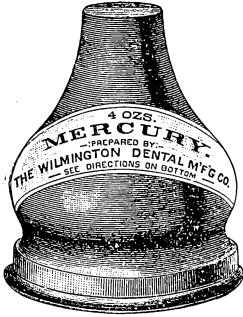


W. D. MFG. CO.

W. D. MFG. CO.

CHEMICALLY PURE MERCURY.

IN MERCURY HOLDERS.



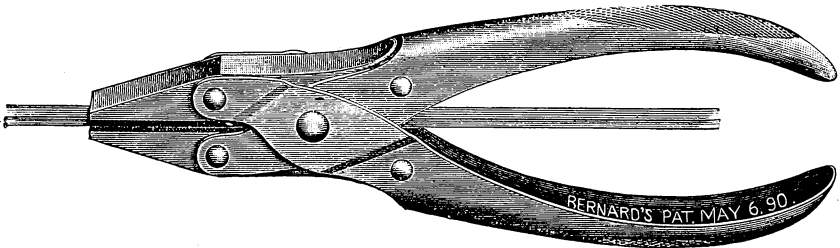
This Mercury, prepared by us, is now known as the only Pure Mercury sold to the dental profession. We still maintain its high standard and market it in such a form as to preserve its purity, and make it more convenient for use.

It is now placed in tightly sealed wood boxes (as illustrated), containing four ounces. To use, drill a hole with a *small* drill, one-half inch deep in the small end.

Price, per Holder of 4 ounces.....50 cents.

REDUCTION IN PRICE

PARALLEL PLIERS, No. 20.



These pliers are made of cast steel, and have great strength. The throat is open, allowing the pliers to firmly grasp a piece of wire in any desired place. The jaws grasp an article their entire length, holding it securely.

PRICES:

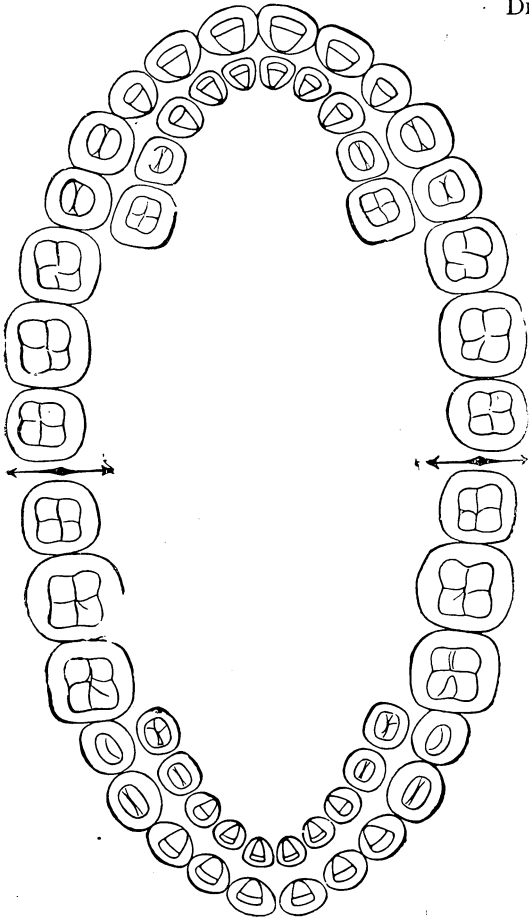
4½ inches	-	-	per pair, 50 cents.
5½ " "	-	-	" " 65 "

THE EXTRA FINE METAL POLISH.

We warrant this powder to be perfectly free from any acid, grit or any substance that can be the least injurious. It readily gives a fine and lasting polish. It is applied with a damp cloth and rubbed dry with a soft cloth or piece of waste. As it is made under our supervision we can recommend it.

Price.....per box, 15 cents.

ALLPORT'S DENTAL LEDGER.



DR. ALLPORT designed this Ledger specially for the needs of the dental profession, and to this day it holds its own as being the simplest, yet most intelligible of any Ledger. A chart accompanies each account, and with proper marking will show the state of each mouth and the work that has been done. Each account is ruled for name and address, date, description of the different operations, charge for same and credit for amounts paid. Each book is suitably indexed.

The paper is of the best and the ruling, printing and binding first-class.

PRICES.

One account to a page, 300 pages, half Roan	\$2.00
Two accounts " " 172 " "	2.00
Two " " " 340 " "	3.00
Two " " " 340 " half Turkey	3.50

We suggest the use of our Examination Tablets and No. 4 Bill Heads with this Ledger, making a complete outfit.

THE DIAGRAM APPOINTMENT BOOK.

The "Diagram" Appointment Book and Pocket Diary is a book suggested by practical dentists, and meets the wants of the profession. The "Diagram" Appointment Book is $6\frac{3}{4} \times 4\frac{1}{4}$ inches. In the front it has calendars for three years, and a table to show the number of days from any day in one month to the same day in any other month. The new feature of the book combines with an appointment book a DIAGRAM for registering the work to be done, or to make memorandum of the work when finished, by having a diagram for each day, and the diagram in such shape as to be efficient and yet not make the book bulky and unhandy. There are one week's appointments on two opposite pages, and, therefore, six diagrams on same space. In the back of the book are pages for memoranda.

The book may be used without the diagrams and then is very similar to other appointment books. There can be no disappointment in the paper, ruling, printing or binding, as they are all first-class in every particular.

TUESDAY.
2nd Mo. J. O

8	Miss Frailey	1	P. W. Peck
9		2	Edgar Thomas
10	Bertie Cook	3	
11	Mrs Harmon	4	Paul Rose
12		5	

The above is a facsimile of one day's work in the "Diagram Appointment Book;" the appointments are made as usual, and the fillings are accurately noted on the diagram. No ledger or other memorandum is necessary for immediate use; at leisure the work may be copied into the large ledger, if desired. After each person's name a note may be made of the amount charged or paid. It will be seen that it is easy to keep a record on this diagram of the work of this day, or of any day, by letting the hour of appointment stand for that person in the diagram; thus the figure 8 in the diagram stands for, Miss Frailey, the 8 o'clock appointment.

Price in Cloth, 50 Cents.

Leather, 75 Cents.

**The Wilmington Dental M'f'g Co.,
PHILADELPHIA.**

(785)

NO. 1 APPOINTMENT BOOK.

MONDAY.

8		1	
9		2	
10		3	
11		4	
12		5	

TUESDAY.

8		1	
9		2	
10		3	
11		4	
12		5	

WEDNESDAY.

8		1	
9		2	
10		3	
11		4	
12		5	

Can be used for any Year and commencing at any time.

Fine Leather Cover, Good Paper, Memorandum and Cash Account.
Calendar for Five Years.

PRICES.

Without Tuck..... 50 cents.
With Tuck and Pocket 75 "

ANATOMY OF THE HUMAN TEETH.

By G. V. BLACK, M.D., D.D.S.

Octavo.

136 Illustrations.

Cloth.

Extract from author's preface :

"By my experience as a practitioner, as a teacher, and in my intercourse with fellow-practitioners, I have become convinced of a serious defect in the teaching of the details of the anatomy of the teeth, and in the systemization of the terms used in their description. This defect has been a constant draw-back at the chair, in the laboratory, and, most of all, in the college. The object of the present volume is to remedy, in a measure, this defect. To this end I have had constantly in view the needs of the dental student and practitioner.

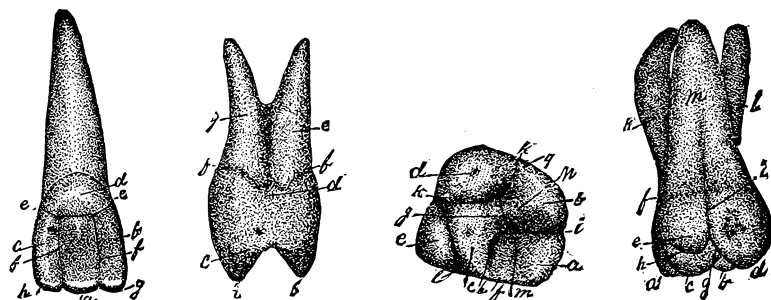
"We have, heretofore, had excellent general descriptions in human and comparative dental anatomy; but these have dealt principally with the general forms of the dentitions of the mammalia, and other orders of animate beings, rather than with specific descriptions of the forms of the various surfaces, and surface markings, making up the sum of the forms of the individual teeth of man. Valuable as these works have been, they have left the acquirements of a knowledge of the details of the specific forms of the human teeth mostly to individual observation. By this means, many have attained to an excellent perception of the various forms of the human teeth; but it is not reasonable to suppose the profession, generally, will do this without some fixed guide. What the dental student wants most in the college, and in the office, is a systematized nomenclature of the several parts of the teeth in detail; and such a description as will call his attention successively to every part of each tooth, as Gray, in his anatomy, has called attention to every part of each bone, however apparently unimportant."

This extract gives a fair idea of the general scope of the work. It is confined exclusively to the anatomy of the human teeth from the stand-point of the needs of the dentist and dental student. It is the first book that has been offered the dental profession of this country, having this specific object. The 136 illustrations are original, and are probably the finest and most carefully executed of any ever made. They are very exact and show every part of each tooth, the enamel lobes and surface markings. Also the arrangement of the teeth and their alveoli, the gums, etc. These illustrations give the work an especial value. No dentist can afford to be without it, and to the dental student and the college it is a necessity.

Price Post-paid, \$2.50

THE WILMINGTON DENTAL M'FG CO., Publishers

Editorial Reviews of the ANATOMY OF THE HUMAN TEETH.



SAMPLE ILLUSTRATIONS.

"We congratulate the profession that at last dentistry is dignified by the production of a distinctly dental descriptive anatomy. Such a work has been long needed. The book before us gives evidence of careful and conscientious effort and the expenditure of much labor in the critical examination of a great number of teeth. The illustrations are ample, definite, minutely discriminating, and, with the carefully phrased descriptions, convey to the mind of the student or observant practitioner fresh and instructive ideas of the breadth of the dental field and the opportunity it affords for strictly scientific investigation. The author has endeavored to present a systematized nomenclature of the several parts of the teeth in detail, with such descriptions as will call the student's attention successively to every part of each tooth, and in many ways sought to make more definite descriptive phraseology as applied to the teeth. Hints are scattered throughout the work with regard to the practical bearing of anatomical points in operative procedures, and as well careful directions for the proper dissection of the several classes of teeth.

"We cordially commend this work to the consideration of teachers and students alike; in fact, to every one who is really interested in acquiring or teaching a professional knowledge of the human teeth."—*Dental Cosmos*.

"There is, perhaps, no more earnest and honest student of the science in our profession than the author of this timely work. He is distinguished for going to the root of everything he investigates, and this book is the result of defects he discovered, and which have been apparent to many observers, in the teaching of the details of the anatomy of the teeth, and in the systemization of the terms used in their description. [The attempt to supply a systematized nomenclature of the several parts of the teeth in detail, similar to the fine work of GRAY in his description of the bones, will revolutionize the teaching of dental anatomy in our colleges. It will make its study, perhaps, more difficult, but it will make it more perfect. Our American cousins are apt coiners of new phrases, and it has been frequently a great annoyance in dental literature over the border, that among such good verbal coinage there has been much counterfeit, and no sort of unity in nomenclature. DR. BLACK has simplified, as well as systemized, the description of the teeth, and by aid of original illustrations, has pictorially expressed his propositions. In addition to the detailed naming of the hard parts of every tooth, the author has carefully described the anatomical characteristics of the pulp chambers of the teeth. The anatomical arrangement of the teeth, the alveolar process and alveoli, and the periodontal membrane, and the gums are each in turn discussed and dissected. It is a genuine treat to study this work, which, no doubt, will become a standard text-book of our colleges. The Wilmington Dental Manufacturing Co. have published it in handsome form. No student can afford to be without it."—*Dominion Dental Journal*.

"This is the first book devoted exclusively to the gross anatomy of the human teeth. It describes the external configuration and surface markings peculiar to the typical tooth of each denomination, together with two or three normal variations. It is an effort to systematize the nomenclature of dental anatomy; some of the names supplied are new and some are already in use.

"In looking at this book it will surprise many that its like has never been before produced. The only work which approximates it is DR. JUDG's pamphlet, published by the Illinois State Dental Society early in the 'seventies.' That, however, had only a limited circulation. Of personal knowledge, it has been the author's desire to see such a book in the hands of college students, and in the libraries of practitioners for several years past. Perhaps it was the well-known fact that DR. BLACK was so admirably fitted to deal with this subject himself, that deterred others to whom he suggested the writing of such a book, from undertaking the task.

"Force of circumstances as well as intrinsic merit will go to make this book a part of permanent dental literature, for it has the advantage of being the first 'dental anatomy' deserving the name. It is a question which is the author's greater service—giving the profession the knowledge it contains, or producing the first book exclusively devoted to the subject.

"No one who buys the book can doubt its utility to the student, and the exact knowledge it gives the practitioner who already has years of successful work behind him, adds an interest to the daily routine, amounting almost to a fascination."

—*Dental Review*.

The Student's Manual and Hand-Book for the DENTAL LABORATORY.

SECOND EDITION.

By L. P. HASKELL, D.D.S.,

Professor of Prosthetic Dentistry, Dental Department of the North-Western University, Chicago.

TO WHICH IS APPENDED

Dr. E. H. ANGLE'S SYSTEM OF APPLIANCES FOR CORRECTING IRREGULARITIES.

The Second Edition has been REVISED, ENLARGED and more FULLY ILLUSTRATED, and is a handsome book of 97 pages, cloth bound.

Price.....Post-paid, \$1.50

We quote a few words of commendation that the second edition elicits:

"The author of this little volume brings to his work a recognized competency which is a guarantee of the practical character of the instructions given. The student and the experienced dental mechanic will alike find a value much beyond the price of the book,—which might, however, have well included further details of laboratory methods and manipulations. The considerable addition of illustrated examples of the Angle system of regulation and retention adds to the value of the book." * * * *—*Dental Cosmos.*

"The cordial reception which was accorded the first edition of this popular 'Student's Manual' has induced the author, Prof. L. P. Haskell, of Chicago, to re-write the greater portion of the work, to which is appended Dr. E. H. Angle's 'System of Appliances' (illustrated), for treating irregularities of the teeth and maxillary fractures. This book is indispensable to the student and will be found useful to most practitioners. It describes the essential features and outfit of the laboratory, and gives a brief but lucid description of the necessary apparatus and appliances required in the manufacture and repair of artificial dentures, as well as those used by Dr. Angle in the correction of deformities."—*Dental Headlight.*

"The increasing interest in dental mechanics has caused the modest little hand-book, representing the first edition, to be expanded to a manual of goodly proportions. This expansion is not due to windy, meaningless words, but to healthy, practical advice and receipts. Its only fault is in the brevity of descriptions of processes and procedures; but to a mechanic the explanations are sufficiently clear, while to the novice—well, there is not sufficient irrelevant material in the book to stuff a brainless skull, anyway.

"Crown and bridge-work has not been considered in this book, as the recent work of Dr. George Evans seems, in the experience of Dr. Haskell, to have covered the field completely. A very valuable addition is that of the method of correcting irregular teeth and their retention, by Dr. Edward H. Angle, of Minneapolis, Minn. This work is truly a practical book by a practical man."—*The Dental Advertiser.*

THE WILMINGTON DENTAL MFG. CO., Publishers.

➤ **NOW IN PRESS!!**

DENTAL JURISPRUDENCE,

By W. F. REHFUSS, D.D.S.,

OF PHILADELPHIA, PA.

ALTHOUGH several excellent articles on Dental Jurisprudence have been written, yet no complete text-book has been published. The object of the present work is to supply to the dental and legal professions a book, which, by reason of the correctness of the legal principles therein, and of the special dental and legal subjects treated, can be universally accepted as a distinct authority. The author has devoted several years to careful researches of court records, and of all the literature pertaining to the subject, and presents a complete work. This work has been written with the view that it be acceptable to the Deans of the Dental Colleges, the members of State Boards of Examination, Dentists and Lawyers, containing, as it does, every subject pertaining to Dental Jurisprudence, which thus becomes a standard subject in dentistry. Owing to the increased legal responsibilities accredited to the Dentist, due to the advanced position his profession holds, no Dentist can afford to overlook or be ignorant of the legal principles as applied to dentistry; and the Student just commencing his professional career, by perusing the work and following the teachings, may avoid errors that might involve him in serious trouble.

This work is in forty-two chapters, a few of which are devoted to the following subjects: Dental Witnesses, Dental Expert Witness, Dental Malpractice, The Degree of Skill Required of a Dentist, Negligence, Contributory Negligence, Fractures of the Jaws During Extraction of Teeth, Cocaine, Hemorrhage Following the Extraction of Teeth, Inquiries and Deaths Due to Anesthetics, Rape Under Anesthesia, Compensation, The Right to Charge for Time Lost, The Jurisprudence of Dental Patents, etc. Every conceivable dental-legal subject has been embodied in this work, and the reference of all legal cases quoted are annexed; hence, the authority is unquestionable. It is not a mere compilation, as many of the subjects are new and presented for the first time.

The appendix embraces the laws regulating the practice of dentistry in every State in the United States having such statutes; and, in addition, the dental laws of every country in the world having dental laws. These are compiled correctly.

THE WILMINGTON DENTAL M'FG CO., Publishers.

BARGAINS!

AT NEW YORK DEPOT.

- No. 1 N. S. S. White Pedal-lever Chair, Upholstered in Leather.
In good condition. Price†.....\$125 00
- No. 2 N. S. S. White Engine. No. 7 Hand Piece. In good condition. Price*..... 25 00
- No. 4 N. Lugo Motor (new). This motor unites low voltage with high speed, and is the most economical. Will run lathe engine or fan with any battery. Price..... 15 00
- No. 5 N. Beseler Improved Laryngoscope. Complete, except lenses. (Price, new, with two lenses, \$45.) Will sell this for..... 15 00
- No. 6 N. One Morrison Chair in Plush. Excellent condition. Price† 70 00
- No. 8 N. Dr. Tee's Lilliput Furnace, without marks of fire. Price.. 20 00
- No. 9 N. Bonwill Engine Mallet, with 1 dozen pluggers. No marks of use. Price..... 12 00
- No. 11 N. Howell Rubber Packer. Complete. As good as new. Buy this, and stop breaking your teeth sections. Price..... 12 00
- No. 12 N. S. S. W. No. 3 Laboratory Lathe, without Cover. Otherwise in good condition. Price..... 15 00
- No. 13 N. Whitney Vulcanizer (3 case), with Coolidge Gas Regulator and Improved Fletcher Gas Burner. In good order. Price 14 00

†Boxing, \$1.00 extra.

*Boxing, 75 cents extra.

BARGAINS!

AT PHILADELPHIA DEPOT.

- No. 1. Wilkerson Chair, non-Detachable Arms. Child's Seat. Upholstered in Leather. Spittoon. All in fair order. Price†... \$90 00
- No. 2. S. S. White Improved Driving Wheel No. 2. Wheel weighs 45 lbs. and is 18 inches in diameter. In first-class order. Price, new, \$16.00. Price*..... 12 00
- No. 3. Johnston Engine, No. 7. Hand Piece. Price*..... 15 00
- No. 4. Hood & Reynolds' Standard Engine, Brown Hand Piece. Almost new and in first-class order. Price*..... 30 00

No. 5.	Electric Mouth Lamp and Laryngoscope, with Cord, in Morocco Case. Very little used. In first-class order. Cost new, \$15.00. Price	\$10 00
	No. 4 Carbon Cylinder Battery, four cells. For use with above lamp. In good order. Cost new \$13.00. Price.....	8 00
No. 6.	S. S. White Engine. Small Wheel. Hodge Hand Piece. In good order. Price*.....	20 00
No. 7.	Register Engine and Mallet. Nearly new. Price*.....	35 00
No. 9.	Bonwill Electric Mallet. In good working order. Price..	25 00
No. 10.	S. S. White Engine. Small Wheel. New Universal Hand Piece. In good order. Price*.....	20 00
No. 11.	Lewis Gasometer, No. 2. Tubing. Improved Automatic Inhaler. 100-gallon Gas Cylinder and Gas. All in good order. Price*.....	35 00
No. 12.	S. S. White Engine. Small Wheel. New Universal Hand Piece. Price*.....	20 00
No. 13.	Whitney Vulcanizer, three flasks. Kero. Second-hand. Price.....	8 00
No. 14.	U. S. Lathe Head and Stand. Good order. Price.....	11 00
No. 15.	Wooden Archer Chair. Green Plush. Footstool. Fair order. Price†.....	18 00
No. 16.	Wooden Archer Chair. Red rep. Price†.....	15 00
No. 17.	Perkins Chair with ball and socket motion. Footstool attached. Upholstered in Corduroy. Fair order. Price†...	40 00
No. 18.	S. S. White Engine. Small Wheel. No. 4 Hand Piece. Price*.....	15 00
No. 19.	Haskell's Student's Manual, first edition. A few copies only. Price, per copy.....	50
No. 20.	S. S. White Engine. Small Wheel. No. 6 Cone Journal. Hand Piece. Price*.....	18 00
No. 21.	S. S. White Engine. Medium Wheel. No. 6 Cone Journal. Hand Piece. Price*.....	22 00
No. 22.	S. S. White Engine. Medium Wheel. No. 7 Hand Piece. Price*.....	25 00
No. 23.	S. S. White Engine. Medium Wheel. Hodge Hand Piece. Price*.....	25 00
No. 24.	Bonwill Engine. Bonwill Hand Piece. Price*.....	20 00

*Boxing, 75 cents extra.

†Boxing, \$1.00 extra.

BARGAINS!

AT CHICAGO DEPOT.

No. 1 C. Morrison Chair, Upholstered in Corduroy. Shop-worn.	
Price *.....	\$95 00
No. 2 C. Cycloid Chair, Upholstered in Leather. Price *.....	
	80 00
No. 3 C. Morrison Chair. Second handed. Crimson Plush. Price *	
	80 00
No. 4 C. S. S. White, Pedal-lever Chair, Upholstered in Leather.	
Price *.....	75 00
No. 5 C. Wooden Archer, Crimson Plush. Price *.....	
	35 00
No. 6 C. Wooden Archer, Brown Rep. Price *.....	
	35 00
No. 7 C. Wooden Archer, Brown Silk Plush. Price *.....	
	30 00
No. 8 C. Wooden Archer, Green Plush. Price *.....	
	30 00
No. 9 C. Iron Archer, Crimson Plush. Price *.....	
	28 00
No. 10 C. Iron Archer, Figured Plush, with Cuspador. Price *.....	
	30 00
No. 11 C. S. S. White Engine, Hodge Hand-piece, Flexible Attachment. Price.....	
	30 00
No. 12 C. S. S. White Engine, Small Wheel, Hodge Hand-piece. Price.....	
	20 00
No. 13 C. Johnson Engine, No. 6 Hand-piece, Flexible Attachment. Price.....	
	20 00
No. 14 C. American Engine, No. 7 Hodge Hand-piece. Second handed. Price.....	
	30 00

* Boxing and carting extra on chairs.

BARGAINS!

AT WASHINGTON DEPOT.

No. 1 W. S. S. W. Laryngoscope, with Conducting Cord as good as new. Price, new, \$11.50. Will sell for.....	
	\$9 00
No. 2 W. S. S. W. Engine, No. 7 Hand-piece, Flexible Attachment. In good order. Price.....	
	30 00
No. 3 W. Johnson Engine. Hodge Hand-piece. In good order. Price	
	15 00
No. 4 W. Stand for 100-gal. Gas Cylinder. Price.....	
	3 00

Wants, For Sale, &c.

ADVERTISERS.—Our terms for advertising under above headings will be **ten cents per word**, including the captions, "Want," or "For Sale," and address. Initials will be charged same as words. Cash must accompany advertisements. Advertisements must be in our hands by 18th of the month, to insure insertion in following month's issue. **THE WILMINGTON DENTAL M'FG CO.,**

BRANCHES: { 1300 Broadway, New York.
78 State Street, Chicago, Ill.
1217 F St., N. W., Washington, D. C. } 1413 Filbert St., Philadelphia, Pa.

187—**Wanted.**—To buy dental practice or interest, in New York City. Address, "Osteo," Room 4, 13 Broadway, New York.

188—**For Sale.**—Lease and outfit in best location for transit in Boston. Address, "Wood," 62 Temple street, Somerville, Mass.

189—**Wanted.**—Position as assistant. Speaks German. Good all around man. Address, "H. F.," care of The Wilmington Dental M'fg Co., Philadelphia.

190—**For Sale.**—Dental office doing a good business. Address, Lock Box 51, Rochester, N. H.

191—**For Sale.**—Dental office and outfit in Central Iowa for less than cost of outfit. Address, "Iowa," care of C. De Haan & Co., Des Moines, Iowa.

192—**For Sale.**—My office in a rapidly growing town of 3,400 in Maine. Business largely gold. Address, "W.," care of The Wilmington Dental M'fg Co., Philadelphia.

193—**Wanted to Know.**—The whereabouts of W. W. Pailing, dentist. Last heard of between Mexico and Texas. Will any one knowing of his whereabouts kindly address a card to A. W. Thornton, D.D.S., Dresden, Ont., Can.

194—**For Sale.**—Dental office, beautifully equipped, all modern appliances. Cash receipts last twelve months \$6,500. Will sell for \$1,000 cash. Owner's eye-sight troubling him and is going abroad. If not sold by December 15th shall rent for two years. Address, "Connecticut," care of The Wilmington Dental M'fg Co., Philadelphia.

195—**Wanted.**—Dentists to know that this column gives them unexceptional facilities for making known their desires. It is sought for every month by thousands of dentists, as they know that their chances are better for being suited through this journal than they would be through any other five journals. The averaged-sized advertisement only costs you twenty-five cents for every thousand dentists it reaches. Can you possibly make known your wants cheaper?

PRICES OF PORCELAIN TEETH

MANUFACTURED BY

THE WILMINGTON DENTAL MANUFACTURING COMPANY.

	Each.	\$10 lot.	\$25 lot.	\$50 lot.	\$100 lot.
Crescent.....	\$0.12½	\$0.12	\$0.11½	\$0.11	\$0.10
Flat Back .....	.15	.14½	.14	.13½	.12
Genese Crown .....	.35	.33	.32	.30	.28
" Pinless, Gum.....	.10	.09½	.09	.08½	.08
" " Plain.....	.10	.09½	.09	.08½	.08
Gum Rubber.....	.12½	.12	.11½	.11	.10
Land's Facings .....	.08				
Plain Rubber .....	.11	.10½	.10	.09½	.08½
Platinum Pins, Land's, small				each,	5 cents.
" " " large				"	8 "
" Posts for Genese Crown				"	25 "

TRYING TO DEFEAT THE OBJECT OF AN INVENTION.

THERE are always some that are too penurious or blind to know a good thing when they see it, or, if they do, they have some axe to grind of their own that is in danger of being buried amid the onward march of ideas in an inventive age.

There is a certain Doctor in Gotham who has (by several ingeniously written articles appearing in a particular journal) been trying to educate an unsuspecting profession in a particular way and method peculiar to his own advantage, it would seem, on close observation.

These methods of his I know to be old, and many of them obsolete, and apparently he is writing in the interest of some one to try and defeat the object of a recognized invention. But he, like the old farmer who enters the hotel bed-room seeing the sign: "Turn the crank toward the wall to turn off the gas." (The flame being put away up near the ceiling—in order to prevent him blowing it out) draws up a table and standing on it blows with all his might—stands on his tip-toe, and blows. Trying to defeat the object of the invention.

The advantages of **IVORY'S CLAMPS** are patent to all, and no farmer from Gotham can blow them from their extensive use in nearly every office throughout the land. The writer himself having told me that he used my Clamps right along and liked them well.

Something else he told me—that he was going to get out a new set of clamps and asked me to manufacture them for him, as he has tried and failed to invent a clamp that would be equal to mine in adjusting the rubber to a tooth. See Ad. in *Cosmos*, December, 1888, page 931; and also Ad. in *Cosmos*, of clamps of his device, where he tells the profession that the advantage of his clamp is permitting a view of the root, the rubber being stretched over the lugs of his clamp. Now, if this is true of a root, is it not true of a tooth? Inconsistency thou art a jewel.

Then, having failed, as I said, to manufacture a clamp out of his brains to be equal with mine, for carrying on the rubber to a tooth or root without infringing on my patent, which he knows I would prosecute, he is trying to educate the dental profession to the old ways, to uneducate them as it were. But watch him, he has a set of old style clamps, or something, to spring on an unsuspecting profession.

J. W. IVORY.

SAMPLE OF TESTIMONIALS RECEIVED.

Your Nerve Broaches are the finest I ever saw. I could not think of practicing without them.

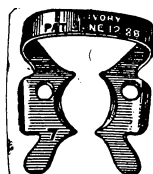
H. J. COLE,
Norfolk, Neb.

Having given your Separator a complete test on bicuspid, cuspids and incisors, I must pronounce it a complete success. I use it with increasing satisfaction. I consider that your Separator Clamps and Nerve Extractors add to a dentist's effectiveness in his daily practice. I had never used any Labial Clamps which appeared to meet all requirements until I got your Nos. 6 and 9, since then that troublesome class of labial cavities extending under the gums have ceased to be objects of dread. I enclose price of one dozen Nerve Extractors stiffest temper you have.

ALFRED T. PEETE,
Corresponding Sec'y of S. C. State Dental Association.

Spiral Nerve Broaches.
Price, 75c. per Doz.

LIST OF IVORY'S SPECIAL CLAMPS.



No. 7.



No. 8.

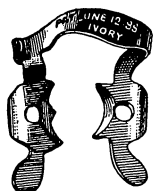


No. 2.

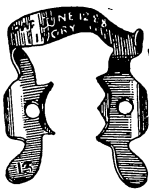


No. 1.

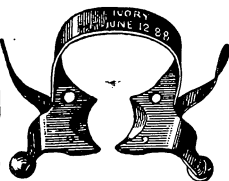
Set of Four. Price, \$3.00.



No. 13.



No. 12.



Napkin Clamp.



No. 11.



No. 10.

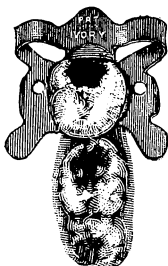
Right and Left Buccal Clamps opened by any force, bow arranged to be out of the way, so as to operate on distal surface of tooth clamped.

Price, per pair, \$1.75

Price, \$1.00

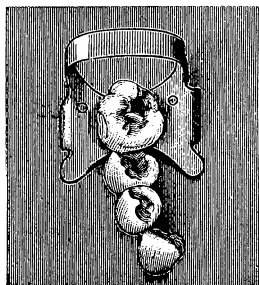
Right and Left Third Molar Clamps open only by catching force in holes, never in bow.

Price, per pair, \$1.50



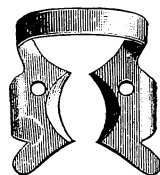
No. 17.

Three-Jawed Clamp for Distal Surface Cavities.

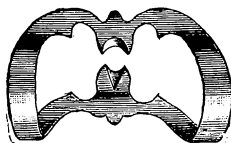


No. 7a.

Larger size than my No. 7.
Set of Four. Price, \$1.00



No. 7a.



No. 15.

Labial Intermediate, in size between Labials Nos. 6 and 9.

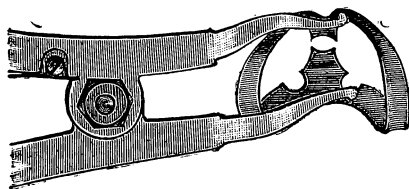


No. 9.



No. 6.

Labial Clamps. Price, each, \$1.00



Special Clamp Forceps.

Price, per pair, \$1.75

J. W. IVORY,

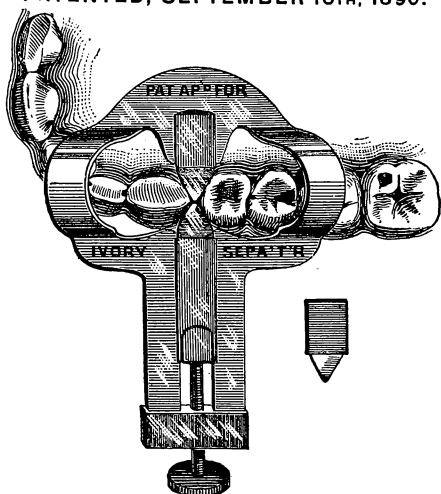
No. 110 North Eleventh Street,

PHILADELPHIA, PA.

(796)

IVORY'S UNIVERSAL DOUBLE BOW SEPARATOR.

PATENTED, SEPTEMBER 16TH, 1890.



The above Separator, is so easily adapted to the teeth, front or back, that it has at once become popular. The force of the screw being applied direct, it will turn with the thumb and finger with very little effort. The bevelled sides of the wedges facing the gum, prevents (when the wedges catch the teeth) any slipping of the instrument, to cause unnecessary pressure on the gum, yet holding the gum and rubber well away from the margin of the cavity. When greater space is desired the points of the wedges will pass each other.

ADVANTAGES:

The double bow steadies the instrument, preventing lateral motion, assisted by the bevelled edges of separating points. The bows are wide apart, giving plenty of room.

Finishing strips can be used by passing one end between the outside frame and the teeth. Its universality of adaptation is a mighty factor. It will be noticed that the inside separating points can be removed, and longer or shorter points substituted, as the case may require. (We furnish two with each instrument.) These are all we have found necessary, the longer of the two for anterior teeth and the shorter for molars and large bicuspsids, but in case an extra short point would be required for extraordinarily large teeth, we can supply an additional wedge any time. In very narrow arches if the point should be required to be longer so as to bear on the inside of the teeth, by moving it forward and inserting a piece of wedge wood back of it you can make it any desired length.

The front wedge (which is movable) is attached to the screws by a swivel joint, moves back and forth in a groove by means of the thumb screw, and is always easily operated. The screw being held out of the frame is always manipulated outside of the mouth. Being quickly applied it is invaluable in getting space for examination, immediate filling, for finishing strips, removing dark stain on proximal surfaces, etc., or removing old amalgam fillings that have become loose in cavity of teeth. The general advantages are to save time, to help you do good work, to allow you to fill proximal fillings in the first stages of decay, and a special advantage of almost doing away with ligatures around the teeth.

To hold the cheek back while filling back molars and to hold the rubber well away from the gingival margins, and also to prevent the necessity of poorly finished fillings. Thus securing you in the good will and estimation of your patients.

By using menthol on the gums before applying or removing the separator, and treating the gums with a mixture of iodine and menthol afterwards, there will be no danger of any injurious after-effects from immediate separation, and very little or no pain in separating.

PRICE, - - - \$3.50.

J. W. IVORY, 110 N. Eleventh Street, Philadelphia, Pa.

W. E. AUGHINBAUGH

American and Foreign Patents, Attorney and
Counsellor-at-Law,

606 F STREET, NORTHWEST,
WASHINGTON, D. C.

The Electro Deposit Dental Plate.

I have taken the direct management of the making of the Deposit Plates. For many cases, I consider them the best plate made. They are especially adapted for whole cases (difficult ones) and for partial lower ones, where the six anterior teeth remain in. If possible, send a cast made from a plaster impression, and marked just as you wish the plate. It takes about four days to make a plate. The plates are all prepared with fastenings for rubber attachment. After the case is finished and the teeth have been worn for a short time and become fully adjusted, then it should be returned for the final finish of gold. And it would be much better if all plates had from one to two *extra* dwts. of gold put on, then they will not tarnish. Extra gold, \$1.50 a dwt. Patients should be instructed to keep the plates well cleansed, using soap and prepared chalk or hand sapolio. Send with the order \$10.00. Address,

DR. C. S. STOCKTON, 17 West Park St., Newark. N. J.

OCT. 1, 1891.

(Mr. E. E. Clark, now with the E. Parmlly Brown International Dental M'fg Co., in canvassing, will receive orders for these plates.)

121]

POST-GRADUATE SCHOOL

OF

Prosthetic Dentistry and Dental Laboratory,

No. 211 WABASH AVENUE,

CHICAGO.

L. P. HASKELL,

President,

R. M. McKAY,

Sec'y and Treas.

THIS School is open the year round. Instructions given in everything pertaining to Prosthetic Dentistry.

STUDENTS MAY ENTER AT ANY TIME.

One month of steady *technical* work under the supervision of PROF. HASKELL and assistants constitutes a course of instruction. This is deemed sufficient time for any practitioner to become familiar with the specialties taught in the school, including

82] CROWN, BRIDGE, METAL PLATES AND CONTINUOUS GUM.

Dr. Throckmorton's Removable Bridge Teeth and Teeth Without Plates.

Made on Gold, Aluminum, and all the white metals, and very nice work can be made on rubber. The teeth are firmly clasped in the mouth and the patient can remove them, and clean and replace them. Any dentist that can make a rubber plate can do this work. In this patent I have simplified dentistry and brought it to perfection, just where it belongs. Model waxed showing how the work is done. Write for circular, name the county. I only sell to one man, deeding my right to him, and give him time to pay, on monthly installments of \$5 or \$10 per month. I give stamp and cuts free. Sent on approval, by express, allowing examination.

J. A. THROCKMORTON,

238 North Clark Street, Chicago, Ill.

Dr. Davis' Gas Plant for Dental Offices.

To do all kinds of soldering, lighting, heating water, warming wax, etc., such as the ordinary gas of our cities. It is guaranteed to run three hours a day for one year at the expense scarcely to exceed one dollar. It gives sufficient heat to solder the largest investments. It will pay for itself in one year in saving gas bills and alcohol. It is not expensive. Correspondence solicited.

Oxford, Iowa.

W. C. DAVIS, D.D.S.

ORTHODONTIA.

Dr. Edward H. Angle will receive a limited number of students for short courses of instruction in Orthodontia. Only graduates received. Address,

13 Syndicate Block, Minneapolis, Minn.

22]

PURE, DRY AND CLEAN COPPER AMALGAM, THAT WILL NOT WASTE.

\$1.00 per Oz.

6 Ozs. for \$5.00.

e.o.t.—121]

W. B. AMES, D.D.S.,

70 State St., Chicago.

DALY'S Chemically Pure Gold Lining, FOR LINING OLD AND NEW RUBBER PLATES.

The Only All-Gold Lining Ever Invented.

The Only Lining that Has Stood the Test of Time and All other Tests.
The Only Lining that Will Cure and Prevent the Injurious Effects of Rubber.

Experience has shown dentists that no combination of metals as silver and gold will stand in the mouth on rubber. Only pure gold or platinum. Send for pamphlet on diseases caused by wearing rubber plates, with testimonials of best known dentists in the U. S.

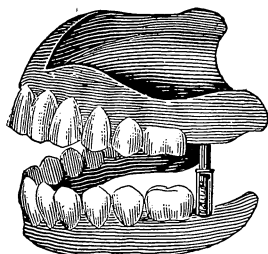
Price, \$3.50 per Book, at all Dental Depots.

DALY GOLD LINING CO.,

703 Fifteenth St., N. W., Washington, D. C

Patented in England, France, Belgium, United States.

52]

DR. STEDMAN'S GOLD AND PLATINUM SPIRAL SPRINGS.

Patented, May 19, 1891.

[2]

The object of this invention is to provide improved means, whereby full dentures shall be firmly held in place under all conditions. This is accomplished by upright spiral springs, suitably incased in gold or nickel, and vulcanized to the lower plate, in place of the last molar, causing a light pressure between the upper and lower plates, in which position it has been demonstrated that the springs do not, in any manner, interfere with the movements of the jaws or otherwise inconvenience the wearer.

The mechanism is so constructed, that it can be detached and springs easily cleansed.

For further information address

J. J. Stedman, M.D., La Porte, Ind.

TESTIMONIALS.

THE MEEKER MEDICINE CO., ROOM 10, IMPERIAL BUILDING,
CHICAGO, ILL., May 25, 1891.

DR. J. J. STEDMAN,

Dear Sir:—Thinking you would like to hear how I am getting along with the new set of teeth, with the patent springs, you made for me last November, and which I have been using constantly ever since and they are giving perfect satisfaction. As I have had four sets made and not having been able to use them, or eat with any comfort I was greatly discouraged; but since using the new set you made for me, I can eat with perfect satisfaction.

I cheerfully recommend it as being one of the best inventions ever made. To any one having difficulty in wearing false teeth will try your patent, they will never have cause to regret it.

Wishing you all the success possible, I am

Yours truly,

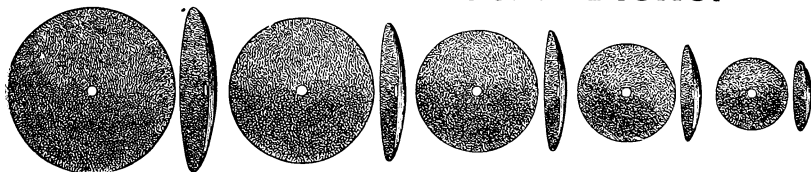
DR. L. MEEKER.

DR. J. J. STEDMAN,

Dear Sir:—I have been wearing a set of false teeth for several years, without much cause for complaint. At your request, I have for some time been wearing a set with the patent spiral springs; I find the plates much more firm, at the same time, it enables me to bite on the front teeth as hard as on the back. The springs give me no trouble whatever; in fact, I am not aware of their presence. In my opinion, the principle is correct, and will revolutionize the old way of making teeth.

Very truly,

J. D. MERRILL.

TEAGUE'S DEPRESSED DISKS.

$\frac{7}{8}$ inch.

$\frac{3}{4}$ inch.

$\frac{1}{2}$ inch.

$\frac{1}{4}$ inch.

$\frac{3}{8}$ inch.

These Disks are made to fit the convex surface of a tooth and thereby preserve the contour in dressing a filling. Cut from Sand Paper, Emery Paper, Cuttlefish Paper, Emery Cloth and Crocus Cloth. Coarse and fine grits of each, except Crocus Cloth; this is of a very fine grit for a lustrous polish. In addition to the above material, Disks of fine and coarse Garnet Paper are put in the boxes of Assorted Disks. A chart for accuracy in ordering Depressed Disks furnished on application.

Depressed Paper Disks,	-	-	-	-	in boxes of 100,	15 cts.
" Cloth	"	-	-	-	"	100, 35 "
" Assorted	"	sizes	$\frac{1}{8}$ in.,	$\frac{3}{16}$ in.,	"	" 200, 30 "
"	"	"	$\frac{1}{4}$ in.,	$\frac{3}{8}$ in.,	"	" 400, 60 "
"	"	"	$\frac{1}{2}$ in.,	$\frac{3}{4}$ in.,	"	" 500, 75 "

OTHER SPECIALTIES:

Teague's Impression Compound,	-	-	-	4-lb can,	50 cts.
" Sand Paper Strip Chuck,	-	-	-	-	25 "
" Cavity Cap Disks,	-	-	-	per 100,	25 "
" Capsicum Plasters,	-	-	-	" 100,	50 "
" Arm-rest,	-	-	-	-	\$1.00

SOLD BY THE TRADE,

or by

Dr. B. H. TEAGUE, - - Aiken, S. C.

[2]

(800)

CAMPHO-PHENIQUE.

(C₈H₁₁O)

FOR PROFESSIONAL USES ONLY.

Local Anæsthetic, Antiseptic, Germicide and Parasiticide.

ABSOLUTELY NON-IRRITANT.

A True Chemical Combination of Refined Camphor and Pure Chlorophenic Acid.

It prevents suppuration in fresh wounds, whether incised or lacerated, and controls it in all stages; its local anæsthetic property *abolishes* or obtunds *pain* almost immediately, two qualities, which, combined, make it the *most effective* *vulnery and dressing* yet offered to the Medical Profession.

CHLORO-PHENIQUE.

(C₆H₄(OH)Cl)

Chemical Compound of Chlorine and Phenic Acid. An Antiseptic and Antizymotic, for Internal and External use, miscible with water in all proportions.

DIANIN discovered and investigated the antiseptic properties of compounds of chlorine and phenol, and demonstrated them to be of the very highest order. In **Chloro-Phenique** we claim that we have the most powerful and valuable antiseptic and antizymotic of the entire series, being certain in action and non-poisonous and non-irritant.

Being soluble in water in all proportions, **Chloro-Phenique** is offered to the Medical Profession as an agent available in all cases where Bichloride of Mercury and Carbolic Acid have hitherto been used, and superior to either of them, in that it is non-poisonous and non-irritant.

We solicit the most careful and searching examination of its merits. Literature sent free and samples to any reputable dentist willing to pay express charges.

Phenique Chemical Co.,

15 CASS AVENUE,

ST. LOUIS, MO.

GRINDSTONE WETTER AND WIPER.

A practical device which dentists will appreciate. Its superiority over all other wetting and wiping devices is:

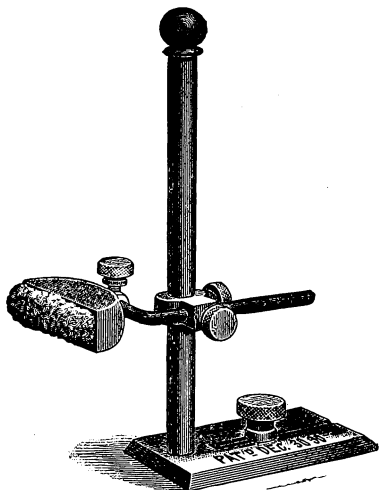
1st. That with one wetting it keeps the stone moist, clean and free from grit half an hour.

2d. It does not splash water nor throw grit in the operator's face no matter how many revolutions per minute the stone makes.

3d. It is adjustable to any size, shape or make of stone manufactured, and a saving of one-fourth of time in grinding gum block teeth.

DIRECTIONS.

When the sponge becomes gritty remove the cup, dip in water and press a few times on the sponge so as to remove grit and surplus water, and replace.



Price in brass, nickel-plated, \$2 25

For sale by Reputable Dealers in Dental Goods, or

12]

Patentee, Dr. E. Goeldner, Watertown, Wis.

CAULK'S WHITE ALLOY

WITHOUT AN EQUAL.


Why? Because nearly all the so-called white amalgams contain a large percentage of **Zinc**, and some of the salts of this metal are highly destructive to the living tooth.


This **Alloy** contains **no Zinc or Cadmium**, is of a peculiar grayish-white color, has good edge-strength, and will stand mastication anywhere in the mouth.

"Good wine needs no bush," and the **best indorsement** of this Alloy is the large amount sold during the past **Ten Years**, and the **daily increasing demand**.

Contains no Zinc or other Metals Injurious to
Tooth Structure.

Ounce.

CAULK'S

WHITE ALLOY.
IMPROVED.



Price per ounce, . . .	\$4.00
" " $\frac{1}{2}$ ounce, . . .	2.00
" " $\frac{1}{4}$ " . . .	1.00
Two ounces for . . .	7.00

PREPARED BY
L. D. Caulk, D.D.S.
 Camden, Delaware.

Highly Recommended in Combination Fillings of
Gold and Amalgam.

NEW YORK CITY, July 11, 1889.

Dear Doctor Caulk:—I am convinced by time and usage that your **WHITE ALLOY** IS THE BEST PLASTIC MATERIAL FOR FILLING FRONT TEETH that I have ever seen.

Very truly yours,

J. W. CLOWES, D.D.S.

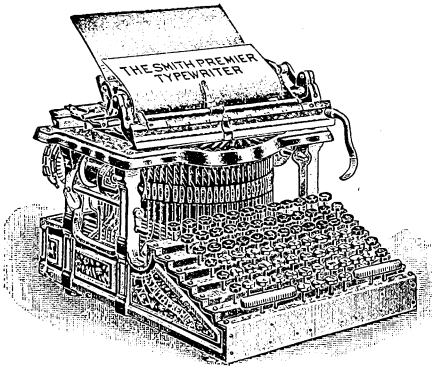
All of Caulk's Filling Materials are sold by Troy Weight, and sent by mail.

L. D. CAULK, Manuf'r, Camden, Delaware.

For sale by **THE WILMINGTON DENTAL MFG COMPANY.**

(802)

THE SMITH PREMIER TANDS RE-EMINENT



*The Leader
of Improvements.*

PERMANENT ALIGNMENT,
SAFETY LOCKING DEVICE (Preventing Errors),
DUPLEX RIBBON MOVEMENT,
AUTOMATIC TYPE-CLEANSING DEVICE,
INTERCHANGEABLE PLATENS,
SHIFT KEYS ABOLISHED, Etc., Etc.

DO YOU GET GOOD RESULTS IN PRESS COPYING?

IF NOT,

Try "Smith Premier" Ribbons,

GUARANTEED to give Satisfaction.

Made for ALL Machines.

The SMITH PREMIER TYPEWRITER CO.,

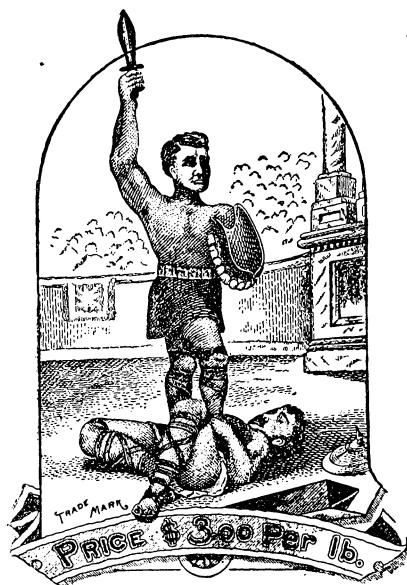
Best Linen Papers. Typewriter Supplies of all kinds,

JOHN HARRISON, }
* Manager, *

335 Chestnut St., Phila., Pa.

TELEPHONE No. 135.

THE "GLADIATOR" RUBBER



is absolutely the **strongest** rubber ever made for a dental base; it makes an **exceedingly** light plate of beautiful color, and owing to its **flexible** and **elastic** qualities a person wearing a plate made from this rubber need have no fear that the gums will become either irritated or sore. Another great feature of this rubber is, that it **can be** used without fear of either **shrinking**, **checking**, or **breaking** the blocks.

I take pleasure in calling the attention of the profession to my **reliable** and **well-known** brand of

IMPERIAL STANDARD DENTAL RUBBERS.

NO.		PER LB.	NO.		PER LB.
1.	Light Orange, - - -	\$2.25	7.	Nubian, or Jet Black, - - -	\$3.00
2.	Medium Orange, - - -	2.25	8.	Ordinary Black, - - -	2.25
3.	Dark Orange, - - -	2.75	9.	Pink (light shade), - - -	5.00
4.	Mottled (light red), - - -	2.75	10.	Pink (medium shade), - - -	5.00
5.	Mottled (dark red), - - -	2.75	11.	Pink (deep shade), - - -	5.00
6.	Maroon, - - -	2.75	12.	Brown Rubber, - - -	3.00

Of these rubbers I direct your special attention to the following:

PINK.

(GENUINE AMERICAN MANUFACTURE.)

I am positively the only manufacturer of pink rubber in this country, and guarantee it superior in color, strength and finish to any of the foreign makes. In color the No. 9 (LIGHT SHADE) is particularly remarkable for its gum or flesh-like resemblance.

MAROON.

This rubber is remarkable for its beautiful maroon shade, which, combined with great strength, elasticity and finish produces a very desirable plate. It is highly recommended by some of the most prominent dentists in the country.

MOTTLED.

This rubber, owing to its beautiful mottled appearance (variegated in color), makes an exceedingly pretty plate. Its other chief merits are increased elasticity, strength and finish.

I desire to state that I am the original INVENTOR of the "Imperial Standard" Pink Maroon and Mottled rubbers, and warn the profession against spurious imitations which have lately been introduced.

IMPERIAL RUBBER WORKS,

8 COLLEGE PLACE,

E. J. MCCORMICK, PROPRIETOR,

NEW YORK.

\$1.00.

72] Upon receipt of this amount will send by Mail, Post-paid, Sample Package containing all the different Rubbers.

(804)

SAMSON RUBBER

STRONGEST AND MOST UNIFORM RUBBER MANUFACTURED.

SAMSON[®] RUBBER

TRADEMARK,
No. 3788.



Registered
June 20th, 1876.

PRICE LIST OF DENTAL RUBBERS AND GUTTA PERCHA.

No. 1 Rubber.....	Per Lb.....		\$2 25
No. 2 Rubber.....	“		2 25
Black Rubber.....	“		2 25
Gutta Percha for Base Plate	“		2 25
Less than 10 lb., per lb.....	\$2 25	In 25 lb lots, per lb.....	\$1 90
In 10 lb. lots, “	2 00	In 50 lb. lots, “	1 75
Samson Rubber.....	Per Lb.....		2 75
Maroon Rubber.....	“		2 75
Flexible or Palate Rubber	“		2 75
Vulcanite Gutta Percha..	“		2 75
Less than 10 lb., per lb....	\$2 75	In 25 lb lots, per lb.....	\$2 00
In 10 lb. lots, “	2 25	In 50 lb. lots, “	1 80
No. 1 Weighted Rubber, mixed with Pure Metal, Per Lb.....			\$4 00
No. 2 “ “ “ “ “ “			4 00
Black “ “ “ “ “ “			4 00
Weighted Gutta Percha....	Per Lb.....		4 00

Adamantine Filling or Stopping.

These Rubbers being made from carefully selected Para Gum, and Manufactured by Improved Processes, I can guarantee them to give entire satisfaction to the user and retain a high polish.

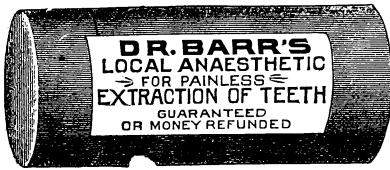
For any Further Information, Address

*** EUGENE * DOHERTY, ***

110 and 112 Kent Avenue, Cor. North Eighth St.,

BROOKLYN, E. D., N. Y.

PAINLESS DENTISTRY.



A two-ounce bottle of Barr's Local Anæsthetic sent prepaid, to any address in the U.S. for \$1.00, and guaranteed to make teeth extracting painless or money refunded, by Dr. E. T. BARR, Manufacturer and Proprietor, Bowling Green, Ky.

DIRECTIONS.—Dry the gums thoroughly, then apply the "Anæsthetic" to the gums around the tooth with a pledget of cotton; let it remain for one minute, then instantly remove the tooth.

TESTIMONIALS:

DEAR SIR:—I have been extracting teeth with your Local Anæsthetic for two years, and in that time have used more than fifty bottles. I concluded to try a battery, therefore sent to New York and purchased one, for which I paid \$42.50. It came. I set it up, thinking it would be all I needed in the future. I kept it behind my chair just two weeks trying to extract one tooth without pain, but I never had any success with it, so I returned to my old friend, your Anæsthetic, uncorked a new bottle, and it worked like a charm. I never expect to use anything else in the extraction of teeth. Allow me to say that I believe it to be the best thing known, and trust every one in our profession will use it. Very respectfully,
G. H. ELLIS, D.D.S., Maxwell, I.

DEAR SIR:—I have given your Anæsthetic a fair test and find it works like a charm. I feel that it is quite an acquisition to my medicine case. In fact, I can't do without it. I extracted eleven teeth to-day for one lady at a single sitting, who thought she could not have one taken out without chloroform. I use it daily. You may rest assured I will do all I can to increase the sale of such a valuable remedy. Enclosed find \$1.00 for another bottle.
J. E. BREEDING,
San Antonio, Texas.

DEAR SIR:—I have tried your Anæsthetic until I am satisfied it will do what you claim for it. Please send me another bottle and oblige.
THOS. M. TALBOTT,
437 7th St., Washington, D. C.

DEAR SIR:—I consider your Anæsthetic the best thing that has ever been invented for painless extraction.
W. W. LAZEAR,
2208 Wabash Ave., Chicago, Ill.

To whom it may concern:

We, the undersigned citizens of Bowling Green, Ky., take pleasure in saying that we have known Dr. E. T. Barr since he came to this city, about ten years ago, and know his reputation to be that of an esteemed gentleman and a popular dentist, and a thoroughly trustworthy business man.

JOHN E. DuBOSE, City Attorney.
E. H. PORTER, Postmaster.
G. E. TOWNSEND, Druggist.

For sale in London, Eng., by the Dental Mfg. Co.; A. H. Billard, Paris, France; Paul Buss, Berlin, Germany; Flavell & Roberts, Brisbane, Australia, and dealers everywhere. Price \$1.25 in all foreign countries.

DEAR SIR:—I have tried your Local Anæsthetic and like it better than anything of the kind I have ever used. I enclose \$1.00 for another bottle. Yours respectfully,
A. W. TERRY, Hamburg, Ark.

DEAR DOCTOR:—Will say I have been using your Local Anæsthetic for more than a year and like it very much. Yours respectfully,
Dr. J. L. CILEY, Upper Lake, Cal.

DEAR DOCTOR:—I have used your Local Anæsthetic with good success. Respectfully,
S. C. LIGETT, Blanchester, O.

DEAR DOCTOR:—I have been using your valuable Local Anæsthetic for nearly a year and find it all you claim for it. Would not be without it a single day. Yours truly,
S. B. CADWELL, Wheeling, W. Va.

DEAR SIR:—Your Anæsthetic has proven quite a success, and in many cases, has taken the place of chloroform at my office. Dr. E. KNAPP, Evansville, Ind.

DEAR DOCTOR:—It affords me pleasure to recommend your Local Anæsthetic. I have used it in several cases, and find it of great value, and must say I am highly pleased with it. Yours truly,
G. D. VAN ARNAM,
West Winchester, Ont., Can.

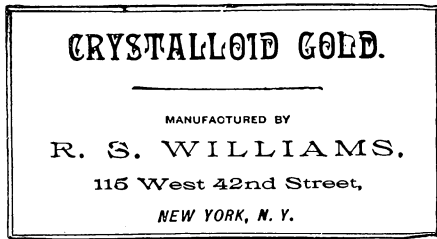
DEAR DOCTOR:—I think your Local Anæsthetic the best I have ever used. Yours truly,
G. N. WILLIAMS, Germantown, Pa.

DEAR SIR:—I am now using the second bottle of your Anæsthetic, which I find a convenient and useful article in my practice.
J. ALBERT KIMBALL, D.D.S.,
28 West 26th St., New York.

G. S. HOLLINGSWORTH, City Clerk.
J. F. McELROY, M.D.
P. J. POTTER & CO., Bankers.

THIS SPACE IS RESERVED FOR

DR. BARR'S NEW ADAMANTINE WHITE ALLOY.



The Most Practical Plastic Gold.
Spreads Laterally Under the Plugger.
Obviates all Difficulty in Commencing Fillings.
Retaining Pits Seldom Needed.
Finishes Well with Good Edges and Hard Surfaces.
It Saves Time.
It Saves Teeth.
Is Excellent in Frail Cavities.

Number 1 is loosely made, soft, and the thinnest of the different numbers.

Number 2 is one-half thicker than Number 1, but is the same in all other respects.

Number 3 is only a little thicker than Number 1, but is so made that it is tougher, consequently the Plugger will not so readily go through and break it up. It is preferred by many operators for general work as well as *for contours*.

Number 4 is designed for use in facing amalgam fillings. Used with my Amalgam Alloy, No. 1, it gives satisfactory results.

All the numbers fill faster than ordinary gold, so care is needed to condense each layer before adding another.

PRICES

$\frac{1}{8}$ oz.	\$4.50
$\frac{1}{2}$ oz.	17.00
1 oz.	34.00

FOR SALE BY

THE WILMINGTON DENTAL MANUFACTURING CO.

DES MOINES SCHOOL
—OF—
PRACTICAL DENTISTRY.

Dr. E. E. HUGHES,
President.

Dr. L. M. MATHEWS,
Secretary and Treasurer.

Instruction given in all PRACTICAL METHODS of PROSTHETIC DENTISTRY adapted to the needs of the GENERAL PRACTITIONER.

CROWN BRIDGE and METAL WORK of all kinds.

Students May Enter at Any Time.

TUITION FOR THE COURSE (One Month), \$40.00.

The actual application of all methods taught will constitute
A SPECIAL FEATURE
of this course.

For descriptive circular address,

DES MOINES SCHOOL OF PRACTICAL DENTISTRY,
210] 602 Walnut Street, Des Moines, Iowa.

University Dental College,
DEPARTMENT OF THE NORTHWESTERN UNIVERSITY,
CHICAGO, ILL.

The Fifth Annual session
BEGINS
SEPTEMBER 29th, 1891,
and continues for seven months.

Important additions have been made to the faculty. Profs. Geo. H. Cushing, G. V. Black, T. L. Gilmer, W. B. Ames, D. M. Cattell, and others.

The college will be enlarged and refurnished with all necessary appliances for the most thorough teaching.

For catalogues and other information address,

or,
Dr. E. NOYES, Secretary,

Dr. E. D. SWAIN, Dean,

65 RANDOLPH STREET, Chicago, Ill.

University of Michigan.

COLLEGE OF DENTAL SURGERY.

The Sixteenth Annual Session begins October 1, 1891, and closes June 25, 1892.

The preliminary examination will be held Tuesday, September 30, 1891.

Three full courses of study of nine months each are required for graduation.

The fees, which must be paid in advance each year, are for non-residents of Michigan: \$60 first year; \$35 second year; and \$45 third year. These fees cover all expense of tuition, but not of material consumed in the laboratory courses.

The annual announcement, containing full particulars, will be sent to any one addressing a request to

12]

J. TAFT, Dean, Ann Arbor, Michigan.

INDIANAPOLIS POST-GRADUATE SCHOOL OF PROSTHETIC DENTISTRY, 1½ East Washington Street, Indianapolis.

DR. G. B. MARTIN, President and Treasurer.

L. W. ROE, Secretary.

This school is open the year round. Instructions given in everything pertaining to Prosthetic Dentistry. Students may enter at any time. One month of steady technical work under the supervision of Dr. G. B. Martin and assistants constitute a course of instruction. This is deemed sufficient time for any graduate or practitioner to become familiar with all the specialties taught in the school, including Porcelain Inlays, Crown, Bridge and Continuous Gum Work.

The laboratory is prepared to construct dentures of all descriptions for the profession.

For further information address the Secretary,

**L. W. ROE,
1½ East Washington Street.**

CHICAGO TOOTH SAVING DENTAL COLLEGE,

235 WABASH AVENUE,

Cor. Jackson Street.

FACULTY:

SVEN WINDROW, M.D., Anatomy.	CHAS. G. DAVIS, M.D., Hygiene and Dental Reflexes.
J. B. S. KING, M.D., Physiology, Chemistry and Metallurgy.	J. S. MARSH, D.D.S., Dental Pathology and Therapeutics.
W. K. JAKUES, M.D., Oral Surgery and Microscopy.	R. W. STARR, D.D.S., Mechanical and Prosthetic Dentistry.
CHAS. B. REED, M.D., Materia Medica.	E. G. ROBINSON, D.D.S., Operative Dentistry.
E. P. MURDOCK, M.D., Pathology and Comparative Anatomy.	

DEMONSTRATOR IN CHARGE, **W. H. PONTIOUS, D.D.S.**

Students admitted in 1891 are charged for two courses only, the senior year being free.

Knowing full well the great number, variety and standing of the Dental Colleges from which the student has to choose, we would present to you the superior merits of THE CHICAGO TOOTH SAVING DENTAL COLLEGE, and show in what way it aims to educate both the students and the people, not in the encouragement of the barbarous extraction of teeth, which robs the patient of that which can never be replaced, but by giving practical instruction in the art of saving **ALL TEETH** which may come to us, with the single exception of absolute necrosis and absorption.

Practical experience has shown to us that in a vast majority of cases where dentists have advised extraction, we have treated and saved such teeth to the delight of the patient.

What we now propose to do is to instruct the student in our manner of bringing our theories of therapeutic and prosthetic dentistry into practice. It is our aim to give as thorough a course of instruction in all branches as is taught by the standard colleges of the country; and in addition to work to the advantage of the students by giving them an incentive to industry, and as their skill advances, to reward them accordingly.

The College is centrally located, and within easy access of all the car lines in the city, being on

WABASH AVENUE, Cor. JACKSON STREET.

THE REGULAR COURSE BEGINS

October 1st and ends April 1st.

THE SUMMER COURSE BEGINS

April 1st and ends October 1st.

**THE REQUIREMENTS OF STUDENTS FOR MATRICULATION ARE
TO PASS AN EXAMINATION IN THE ENGLISH LANGUAGE,
AND A FAIR KNOWLEDGE OF MATHEMATICS.**

No Student Admitted Under 18 Years of Age.

**The Requirements of Graduation are the Attendance of Three Full
Regular Courses of Instruction, and to Pass the Regular
Examinations Attending each Course.**

TERMS:

Matriculation (payable but once).....\$ 5 00	Dissection.....\$10 00
One Course of Lectures.....100 00	Diploma.....5 00

SPRING TERM:

Fifty dollars which amount is deducted from the regular course fee of \$100.00.

**All Students Desiring Further Information are Requested to Call or
Address,**

JOHN S. MARSH, D.D.S.,

Room 609.

167 Dearborn Street,

CHICAGO, ILL.

(810)

ESTABLISHED 1845.

OHIO COLLEGE OF DENTAL SURGERY.

Department of Dentistry—University of Cincinnati.

SESSIONS 1890-'91.

FACULTY.

J. S. CASSIDY, M.D., D.D.S.,
Professor of Chemistry and Materia Medica.

H. A. SMITH, D.D.S., Dean of the Faculty,
Professor of Operative Dentistry and Dental Pathology.

C. M. WRIGHT, D.D.S.,
Professor of Physiology and General Pathology.

WM. KNIGHT, M.D., D.D.S.,
Professor of Anatomy and Oral Surgery.

GRANT MOLLYNEAUX, D.D.S.,
Professor of Mechanical Dentistry and Metallurgy.

C. I. KEELY, D.D.S.,
Lecturer on Irregularities of the Teeth.

L. E. CUSTER, D.D.S.,
Lecturer on Anæsthetics and Obtundants.

DEMONSTRATORS.

J. E. BARRICKLOW, D.D.S.,

A. O. ROSS, M.D., D.D.S.,

E. A. MEHAFFEY, D.D.S.,

Demonstrators of Operative Dentistry.

H. T. SMITH, D.D.S.,

Demonstrator of Analytical Chemistry.

H. C. MATLACK, D.D.S.,

Demonstrator of Anatomy.

MAX J. H. MARTIN,

Demonstrator of Mechanical Dentistry.

The Forty-sixth Regular Session begins

THURSDAY, OCTOBER 1st, 1891.

FEEES.

FRESHMAN YEAR.		JUNIOR YEAR.	SENIOR YEAR.
Matriculation,	\$5.00	Professors' Tickets, \$75.00	Professors' Tickets, \$75.00
Professors' Tickets,	75.00	Dissecting Ticket, 10.00	Graduation Fee, 25.00
		Analytical Chemistry 10.00	

For information and announcement, address,

or,

H. A. SMITH, D.D.S., Dean.

H. T. SMITH, D.D.S., Secretary.

82]

128 Garfield Place, Cincinnati, Ohio.

(811)

✦ THE DENTAL DEPARTMENT ✦

OF THE

Cincinnati College of Medicine and Surgery,

Established 1851,

COLLEGE BUILDING, 164 GEORGE STREET.

SESSION 1891-92

*Organized to confer the Degree of D.D.S. on
Students qualified to practice Dentistry as a
Specialty of Medicine.*

THIS COLLEGE WILL CONFORM TO THE RULES REGULATING
THE NATIONAL ASSOCIATION OF DENTAL FACULTIES.

FACULTY :

- G. S. JUNKERMAN, M.D., D.D.S. (*Dean of the Faculty*),
Prof. of Operative Dentistry and Oral Surgery.
JOHN M. SHALLER, M.D.,
Prof. of Physiology and Practical Histology.
W. E. LEWIS, M.D.,
Prof. of Descriptive and Practical Anatomy.
A. I. F. BUXBAUM, M.D., D.D.S.,
Prof. of Orthodontia and Clinical Dentistry.
W. T. McCLEAN, M.D., D.D.S.,
Prof. of Prosthetic Dentistry and Dental Metallurgy.
CHARLES H. MARTIN, D.D.S. (*Secretary of the Faculty*),
Prof. of Dental Materia Medica and Dental Pathology.
WILLIAM DICKORE, A.M., Ph.D.,
Prof. of Theoretical and Analytical Chemistry.

First Annual Session begins September 14th, 1891.

Special attention given to all correspondence. Address,

G. S. JUNKERMAN, M.D., D.D.S.,

DEAN,

116 West Seventh Street,

Cincinnati, Ohio.

(812)

AMERICAN COLLEGE —OF— DENTAL SURGERY,

78 to 80 STATE STREET,
CHICAGO, ILL.

BOARD OF DIRECTORS.

L. D. McINTOSH, M.D., D.D.S., PRESIDENT,
Professor Microscopy, 141 Wabash Avenue.
I. CLENDENEN, M.D., SECRETARY,
Professor Oral Surgery, 78 State Street.
T. F. McKEY, D.D.S., TREASURER,
I. B. CRISSMAN, D.D.S. S. T. BURKE, D.D.S.

SPRING TERM OPENS FEBRUARY 23, 1892.
WINTER TERM OF 1891-92 OPENS SEPTEMBER 21.
LADIES ADMITTED TO THIS COLLEGE.

FACULTY:

L. CLENDENEN, M.D., D.D.S., Prof. Oral Surgery, 78 State St.	W. K. HARRISON, A.B., M.D., Prof. Chemistry, 103 State St.
I. B. CRISSMAN, D.D.S., Prof. Operative Dentistry, 271 N. Clark St.	O. P. BENNETT, M.D., Prof. Anatomy, 70 State St.
C. T. HOOD, A.M., M.D., Prof. Physiology, 992 West Adams St.	T. B. WIGGINS, M.D., Asst. Prof. Physiology, 3106 Rhodes Ave.
S. T. BURKE, D.D.S., Prof. Clinical and Prosthetic Dentistry, 78 State St.	T. F. McKEY, D.D.S., Asst. Prof. Clinical Dentistry.
L. D. McINTOSH, M.D., D.D.S., Prof. Microscopy and Histology, 141 and 143 Wabash Ave.	JOHN J. BARBER, D.D.S., Special Clinic, Crown and Bridge-Work, Toledo, Ohio.
G. NORTH, A.M., D.D.S., Prof. Dental Pathology, Embryology, and care of Deciduous Teeth, Springville, Iowa.	C. FRANKLIN HART, D.D.S., Special Lecturer on Operative Dentistry Chicago, Ill.
L. C. INGERSOLL, A.M., D.D.S., Prof. Materia Medica, Therapeutics and Pathology, Keokuk, Iowa.	DR. GODFREY S. SALOMON, Special Clinic, Electric Mallet, Chicago, Ill.

FEES.

Spring Term, - - - - - \$25.00
Winter Term, - - - - - 75.00

FOR DESIRED INFORMATION, ADDRESS,

I. CLENDENEN, M.D., SECRETARY,

78 STATE STREET, CHICAGO, ILL.

(813)

Indiana Dental College,

INDIANAPOLIS, IND.

Thirteenth Annual Session.

THE COLLEGE COURSE EXTENDS OVER THREE YEARS.

**A PRELIMINARY SESSION WILL OPEN,
TUESDAY, SEPTEMBER 1st, 1891,
and will continue one month. This is open to all and is free.**

THE REGULAR SESSION BEGINS

Thursday, October 1st, 1891,

and will continue five months, closing the first Friday in March, 1892.

Tuition is \$100.00 for each Term. No extras.

FACULTY:

- P. G. C. HUNT, M.D., D.D.S.,
Prof. Crown, Bridge and Porcelain Work.
T. S. HACKER, D.D.S.,
Prof. Mechanical Dentistry.
- J. E. CRAVENS, D.D.S.,
Prof. Operative Dentistry, Development and Pathology of Teeth.
- M. F. AULT, M.D., D.D.S.,
Prof. Physiology and Histology.
- A. C. KIMBERLAIN, M.D.,
Prof. Anatomy.
- J. N. HURTY, M.D., Ph.D.,
Prof. Chemistry and Metallurgy.
- GEO. EDWARD HUNT, D.D.S.,
Prof. Materia Medica and Therapeutics.
- J. H. OLIVER, M.D.,
Prof. Oral Surgery and Pathology.

A course of ten lectures each, on

Biology, Bacteriology, Neurology and Microscopy are part of the Course.

CLINIC ADVANTAGES ARE UNSURPASSED.

ANNOUNCEMENT NOW READY.

J. N. HURTY, - Secretary,
INDIANAPOLIS, IND.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY,

Twelfth Street, between Market and Arch, corner Filbert.

THIRTY-SIXTH ANNUAL SESSION, 1891-92.

FACULTY AND AUXILIARY INSTRUCTORS.

- J. EWING MEARS, A.M., M.D., Professor of Anatomy and Surgery.
 C. N. PEIRCE, D.D.S., Professor of Dental Physiology, Dental Pathology, and Operative Dentistry.
 WILBUR F. LITCH, M.D., D.D.S., Professor of Prosthetic Dentistry, Materia Medica, and Therapeutics.
 HENRY LEFFMANN, M.D., D.D.S., Professor of Chemistry and Metallurgy.
 ALBERT P. BRUBAKER, M.D., D.D.S., Professor of Physiology and General Pathology.
-
- ALONZO P. BEALE, D.D.S., Demonstrator and Lecturer of Prosthetic Dentistry.
 PERCIVAL E. LODER, M.D., D.D.S., Demonstrator of Anatomy.
 G. W. WARREN, D.D.S., Chief of the Clinical Staff.
 I. N. BROOMELL, D.D.S., Demonstrator of Prosthetic Dentistry.
 ALEX. P. LONG, D.D.S., Demonstrator of Operative Dentistry.
 E. T. DAVIS, D.D.S., Demonstrator of Operative Dentistry.
 WILLIAM BEAM, A.M., Demonstrator of Chemistry.
 J. HOWARD GASKILL, D.D.S., Demonstrator of Prosthetic Dentistry.
 FREDERICK R. BRUNET, D.D.S., Demonstrator of Prosthetic Dentistry.
 I. V. MERSHON, D.D.S., Demonstrator of Operative Dentistry.
 E. A. KRETSCHMAN, Instructor in Modelling.
 W. K. THORPE, D.D.S., Demonstrator of Operative Dentistry.

CLINICAL INSTRUCTORS.

- | | | |
|-----------------------|-----------------------|---------------------|
| DR. F. M. DIXON, | DR. C. S. STOCKTON, | DR. JOHN B. WOOD, |
| DR. J. N. FARRAR, | DR. T. F. CHUPELN, | DR. C. E. FRANCIS, |
| DR. W. G. A. BONWILL, | DR. W. H. TRUEMAN, | DR. E. C. BAXTER, |
| DR. A. L. NORTHPROP, | DR. J. HAYHURST, | DR. A. H. BROCKWAY, |
| DR. C. PALMER, | DR. J. G. TEMPLETON, | DR. A. B. ABELL, |
| DR. R. H. SHOEMAKER, | DR. W. R. MILLARD, | DR. R. HOLLENBACK, |
| | DR. CHAS. F. BONSALE, | DR. R. W. STARR, |

This College has accepted the requirements of the National Association of Dental Faculties with regard to admission and graduation of students. (See announcement for 1891-92, which can be procured from the Dean.)

THE SPRING AND FALL SESSIONS.

The Spring Course commences on the second Monday in March, and continues until the first of July. Fee, \$50, which will be credited upon the fee for the regular session.

The Fall Course will commence on Tuesday, September 8th, and continue until the first of October, and will be free to those who matriculate for the regular session.

Attendance upon the Spring and Fall Courses will be deemed equivalent to the term of pupilage under a private preceptor.

THE REGULAR SESSION

Will commence on October first, and continue until the first of March ensuing. Twenty lectures will be delivered each week on the various branches taught.

CLINICAL PRACTICE.

Lecture hours excepted, general clinical practice is available for the student continuously through the day ten months of the year. Competent instructors are always present.

GRADUATION IN MEDICINE.

By an arrangement with Jefferson Medical College, such students as may desire to do so can, if found qualified, obtain the two degrees in Dentistry and Medicine in four years. Students desiring to graduate in medicine are required to notify the Dean of their intention at the beginning of their second course.

FEES.

Matriculation (paid but once),	-	-	-	\$ 5.00
For each year (Demonstrators' Ticket included),	-	-	-	100.00
Dissecting Fee,	-	-	-	10.00
Diploma Fee,	-	-	-	30.00

Board can be obtained at from \$4.00 to \$8.00 per week.

The Instruments and Tools required can be procured for from \$35.00 to \$45.00. This sum does not include the price of dental engine.

For further information, address

UNIVERSITY OF PENNSYLVANIA.

Department of Dentistry,

Thirty-sixth Street and Woodland Avenue, Philadelphia, Pa.

FACULTY.

WILLIAM PEPPER, M.D., LL.D., Provost, and *ex-officio* President.

CHARLES J. ESSIG, M.D., D.D.S., Professor of *Mechanical Dentistry and Metallurgy*.
 EDWIN T. DARBY, M.D., D.D.S., Professor of *Operative Dentistry and Dental Histology*.
 JAMES TRUMAN, D.D.S., Professor of *Dental Pathology, Therapeutics and Materia Medica*.
 JOSEPH LEIDY, M.D., LL.D., Professor of *Anatomy*.
 THEODORE G. WORMLEY, M.D., LL.D., Professor of *Chemistry*.
 EDWARD T. REICHERT, M.D., Professor of *Physiology*.
 GEORGE A. PIERSOL, M.D., Professor of *Normal Histology*.
 JOHN MARSHALL, M.D., Nat.Sc.D., Assistant Professor of *Chemistry*.
 ROBERT HUEY, D.D.S., Lecturer on *Operative Dentistry*.
 EDWARD C. KIRK, D.D.S., Lecturer on *Operative Dentistry*.
 JOHN D. THOMAS, D.D.S., Lecturer on *Nitrous Oxide*.

CLINICAL INSTRUCTORS.

DR. C. S. BECK,	DR. E. H. NEALL,	DR. R. R. UNDERWOOD
DR. H. C. LONGNECKER,	DR. H. C. REGISTER,	DR. I. F. WARDWELL,
DR. W. G. A. BONWILL,	DR. GEO. W. KLUMP,	DR. J. A. WOODWARD,
	DR. W. R. MILLARD.	

DEMONSTRATORS.

WILLIAM DIEHL, D.D.S., Demonstrator of *Operative Dentistry*.
 JOSEPH W. WHITE, D.D.S., Assistant Demonstrator of *Operative Dentistry*.
 JAMES E. LODER, D.D.S., Assistant Demonstrator of *Operative Dentistry*.
 J. E. DUNWOODY, D.D.S., Assistant Demonstrator of *Operative Dentistry*.
 CHARLES A. E. CODMAN, D.D.S., Assistant Demonstrator of *Operative Dentistry*.
 LUTHER M. WEAVER, D.D.S., Assistant Demonstrator of *Operative Dentistry*.
 HARRY B. MCFADDEN, D.D.S., Demonstrator of *Mechanical Dentistry*.
 AMBLER TEES, JR., D.D.S., Assistant Demonstrator of *Mechanical Dentistry, and Demonstrator of Continuous Gum Work*.
 FREDERICK W. AMEND, JR., D.D.S., Assistant Demonstrator of *Mechanical Dentistry*.
 B. HAMILL D. SWING, D.D.S., Assistant Demonstrator of *Mechanical Dentistry*.
 MILTON N. KEIM, JR., D.D.S., Assistant Demonstrator of *Mechanical Dentistry*.
 HORACE McCANNA, D.D.S., Assistant Demonstrator of *Mechanical Dentistry*.
 JOHN G. FULLER, D.D.S., Assistant Demonstrator of *Mechanical Dentistry*.
 FREDERICK A. PIESO, D.D.S., Demonstrator of *Crown and Bridge Work*.
 JAMES G. LANE, D.D.S., Assistant Demonstrator of *Crown and Bridge Work*.
 JOHN B. DEEVER, M.D., Demonstrator of *Anatomy*.

SESSIONS.

The *Winter Session* begins on October 1st, and ends at Commencement early in May. The number of lectures per week, with a synopsis of the various branches taught, will be found in the General Catalogue.

The *Spring Session* begins the first Monday in May and ends the last of June. The work of this session is entirely practical: no lectures are delivered.

EXAMINATIONS.

Attendance upon three regular winter courses of lectures will be required before the final examination for the degree of Doctor of Dental Surgery.

At the close of the first year, examinations are held in *Chemistry, Histology, and Dental Materia Medica*, the end of the second year upon *Anatomy and Physiology*. If the student is not qualified, a second examination is afforded him at the beginning of the next winter session.

The final examination at the end of the course is in *Operative Dentistry, Mechanical Dentistry, Metallurgy, Dental Pathology and Therapeutics*.

All applicants for advanced standing must pass the required examinations of this school, or furnish proof that they have passed equivalent examinations in some recognized dental or medical school.

Graduates of regular medical schools in good standing are admitted to the second year without an examination.

An examination is required for entrance. Students who have certificates properly attested from colleges, or schools of reputable character, will be accepted without examination, all others must pass an examination in the elements of a good English education.

EXPENSES.—Winter Term.

Matriculation Fee (paid once only),	\$5.00	Dissecting Fee (Second year),	- - \$10.00
Fee for One Course of Lectures,	100.00	Graduation Fee (Third year),	- - 30.00

For information and announcements address,

JAMES TRUMAN, Dean,

315th]

343 Chestnut Street, Philadelphia, Pa.



CH. MARCHAND'S PEROXIDE OF HYDROGEN

(MEDICINAL) H_2O_2 (ABSOLUTELY HARMLESS.)

**Most powerful bactericide and pus destroyer.
Endorsed by the medical profession.
Uniform in strength, purity, stability.
Retains germicidal power any length of time.
Taken internally or applied externally with
perfect safety.**

Send for free book of 72 pages, giving articles by the following contributors:

DR. GEO. B. HOPE, Surgeon Metropolitan Throat Hospital of New York. "Diphtheria." *New York Medical Record*.

DR. J. MOUNT BLEYER, of New York. "Intubation of the Larynx." "Diphtheria." *New York Medical Journal*.

DR. E. R. SQUIBB, of Brooklyn, N. Y. "On the Medicinal Uses of Hydrogen Peroxide." "Diphtheria." *Gaillard's Medical Journal*, N. Y.


DR. G. F. ADAMS, of Pulaski, N. Y. "Diphtheria." *Medical Era* of Chicago.

NOTE.—Avoid substitutes—in shape of the commercial article bottled—unfit and unsafe to use as a medicine.

Ch. Marchand's Peroxide of Hydrogen (Medicinal) sold only in 4-oz., 8-oz., and 16-oz. bottles, bearing a blue label, white letters, red and gold border, with his signature. Never sold in bulk.

Physicians willing to pay express charges will receive free sample on application.

PREPARED ONLY BY

 Mention this publication.

Chemist and Graduate of the "Ecole Centrale des Arts et Manufactures de Paris" (France).

SOLD BY LEADING DRUGGISTS.

Laboratory, 10 West Fourth Street, New York.

ITEMS

OF

INTEREST

Published by
**THE WILMINGTON
DENTAL
MANUFACTURING
COMPANY.**

A MONTHLY
MAGAZINE
OF
**DENTAL ART, SCIENCE
AND LITERATURE.**

T. B. WELCH, M.D.,
EDITOR,
VINELAND, N.J.

1413 Filbert Street, Philad'a.

*WILMINGTON DEL.,
1010 King St.*

*NEW YORK,
1300 Broadway.*

*CHICAGO,
78 State St.*

CONTENTS FOR THE MONTH OF DECEMBER, 1891.

THOUGHTS FROM THE PROFESSION.

Pulpless Teeth.....	<i>W. S. Elliott</i>	705
The Popular Dentist.....	<i>W. Kelchum</i>	709
Blundering.....	<i>E. Eggleston</i>	710
Cleft Palate.....	<i>Norman Kingslev</i> ..	711
Fees—Discussion.....		714
Giving Gas.....	<i>J. D. Thomas</i>	716
Pyorrhea Alveolaris—Discussions.....		719
Dental Societies.....	<i>E. S. Talbot</i>	722
State Boards.....	<i>J. H. Martindale</i> ..	724
Acid on Teeth.....	<i>G. W. Weld</i>	727
Aristol in Rigg's Disease.....	<i>E. C. Kirk</i>	730
Preparation of Dental Students.....	<i>W. C. Klatte</i>	731
Dentistry in Europe.....	<i>E. Blitz</i>	732
Preparing Cavities.....	<i>Dr. Ottolengui</i>	734
State Boards.....	<i>T. E. Weeks</i>	740
Pyorrhea Alveolaris.....	<i>Dr. Angle</i>	741
Narcosis Under Gas.....	<i>J. D. Thomas</i>	742
Dental Education.....	<i>W. C. Klatte</i>	743
Davis' Bridge Work.....	<i>W. C. Davis</i>	744
Difficulties With Upper Dentures.....	<i>W. E. Dadmun</i>	744
Water as an Anesthetic.....	<i>F. A. Lane</i>	745
Tobacco on Health.....	<i>Scientific American</i>	746
Expansion of Rubber.....	<i>W. E. Driscoll</i>	747
“ “.....	<i>W. N. Murphy</i>	747
State Boards.....	<i>W. C. Klatte</i>	748
Taking Impressions.....	<i>G. E. Andrews</i>	748
Soldering Tubes.....	<i>W. H. Gage</i>	748
Mending Broken Bands, etc.....	<i>J. T. Melton</i>	749
The Weight of Gas and Oxygen.....	<i>W. S. Elliott</i>	749
To Cut Brass.....		749

MONTHLY GOSSIP.....*W. E. Blakeney*.....750

Dull Instruments—Alveolar Abscess—Fees—Capping Pulpas—Nitrate of Silver for Decay—Quacks—Clinics—Oxyphosphate and Chloro-Percha—Cocaine—Contour Fillings—Porcelain Crowns—Competition.

OUR QUESTION BOX.....753

Setting Bridges and Crowns—Dead Pulpas—Correct Bites—Reflex Symptoms—After Pains from Extracting.

FOR OUR PATIENTS.....756

Siouxeysighed, a poem—Room at the Top, a poem—A Business Man—A Dentist Taking Gas—The Dentist's Drawing-room.

CURRENT NOTES.....760

Plastic Plaster—Wizard Oil—Poor Land Bill Allen—Dull Instruments—Scarcity of Instruments—Try the New—Be Distinctive for Something—Oxychloride With Crystal Gold.

NOTICES.....762

EDITORIAL.....763

The Office of Editor—Life Insurance—How Has the Mighty Fallen?—Clear, Terse, Concise Writing—How Shall We Advertise?

Success is yours,
.....

Provided you are as careful in the selection of the material with which you are working, as you are with the preparation of the cavity you propose filling. Your skill insures the proper preparatory work. Our skill insures you receiving perfect materials for filling.

IF YOU USE



Dawson's White Alloy,
Welch's Gold and Platina Alloy,
Dawson's Cement,
Welch's Phosphate Zinc,



You can rely upon
getting the purest materials
carefully compounded
and always the same.



The Wilmington Dental M'fg Co.,

PHILADELPHIA, NEW YORK, CHICAGO,
WASHINGTON, WILMINGTON.

YOU ARE A DENTIST

ALIVE TO YOUR OWN INTERESTS
AND WISHING TO KEEP UP WITH
THE TIMES; THEN, IF YOU HAVE
NOT ALREADY DONE SO,

Why Don't You Subscribe

- - TO - -

ITEMS OF INTEREST

For 1892

ONLY ONE DOLLAR A YEAR

THE LOWEST CHARGE FOR ANY
DENTAL MAGAZINE PUBLISHED.

This publication, so well known to all the Dentists throughout the United States and Canada, will begin its Fourteenth Volume with the issue of January, 1892, and will consist of 64 pages of reading matter, embodying short articles from noted professional men, and selected articles from all sources of interest to the profession.

No Dentist can well afford to be without it.

▲ ▲ ▲ **SUBSCRIBE NOW** ▲ ▲ ▲

BEFORE YOU FORGET IT.

THE WILMINGTON DENTAL MFG. CO.

1413 FILBERT ST., PHILADELPHIA, PA.



New York.

Wilmington.

Chicago.

Washington.



4296

